

Prof. J. M. H. Brewer

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THE CONNECTICUT SCHOOL JOURNAL.

NEW SERIES.

NEW HAVEN, CONN., FEBRUARY, 1872.

VOL. II.—NO. 2.

THE TEACHER OUT OF SCHOOL.

BY RANDALL SPAULDING, ROCKVILLE, CT.

The question, how teachers should spend their time out of school, is complex, and the answer many-sided. As a teacher, he must meet the demands of his professional work. As a member of society, he has rights to enjoy and duties to discharge. As an individual, especially if he have a home, he has privileges on which neither social nor professional requirements may encroach. It is a fact, however, that a teacher may enjoy all his rights and discharge all his obligations in the various spheres to which he is called, and yet prosecute his work without distraction. These currents of effort and influence are diverse, yet, in a teacher's life, they run to a common center, and are combined in a common result. The better the man or woman, the better the teacher. Will a man's home life, where the cover of formality is lifted, bear scrutiny? Then he is likely to be one in whom the young will place confidence. Is he a man respected and welcomed in society? Then will the same qualities, manliness and politeness, win him the same regard in the school-room. The work of instructing is broadly inclusive. It is said that St. Paul was a man of one idea, yet that one idea touches all others in the universe. So in a like sense may the work of teaching be called specific; yet all desirable human qualities are requisite to the well-furnished teacher, and actually control the degree of his success. It is plain that teaching is in its nature peculiar, and peculiar in this: that while other pursuits in life draw upon particular faculties which are turned to the accomplishment of special ends, teaching works on the very material that constitutes these various faculties.

I have said enough to establish one fact, viz.: that a teacher is by no means under obligation to spend all his time in increasing his knowledge of the branches in which he instructs. From this monotony he is properly summoned by equally pressing duties of private, social, and public nature. I have thus been at some pains to anticipate and avert the charge of laying overmuch stress upon a knowledge of text-books. And I now desire to

ask, does the fault or danger generally lie in that direction? I believe not, and my belief is founded on observation. Let us lay down one or two general truths that will shed light on this question.

First, the teacher, no matter at what age or degree of experience, should possess a growing mind. This is a truism, yet, though it be, it should be emphasized and reiterated until its occasion ceases. Many are still living on as though it had never occurred to them. While it is true of every one, it is strikingly true of children, that they are more easily encouraged by example than by word. If we desire, then, to train the young to be seekers after truth, we must be such ourselves. No policy can be more mistaken than that by which a teacher jealously guards his ignorance and tries to appear omniscient in the school-room. His knowledge of the subject to be taught should be broad and accurate enough to enable him to lead his pupils successfully. If he cannot do this, he has no right to attempt that for which he is unfit. But in almost every branch of study, the teacher, however well versed he may be, will find something more to be learned. To this enlargement of his knowledge he should devote a portion of his time as a part of his legitimate work, nor is it by any means undesirable that the pupils should be aware of this. Thorough, earnest work is obtained rather by leading than by driving. If we would make students, we must be students ourselves. I would take particular care frequently to inform my classes that I had gained some new knowledge of the subject, which I did not possess before, and explain to them my methods of investigating. Of course a teacher should always know enough of the subject to command the respect and confidence of his class; otherwise he should go to school another year. The class should feel that anything that falls from his lips is to be trusted. But there is no disgrace or loss of respect in sometimes confessing inability, in a straightforward and honest manner, to answer the questions of bright and curious children.

Even where there is little or no actual increase of knowledge in the branches taught, there may be continual change and improvement in methods.

The same old round of recitations, month after month, becomes monotonous. One should study to relieve the monotony by bringing something fresh, either from one's own invention, or from the experience of others. This also will involve a certain amount of extra labor out of school; but it will richly pay, for it always pays to be successful, and success in this profession depends largely on this freshness and fertility in resources, which in most cases do, and in all cases may come of cultivation. Children are notably quick in sympathy, and are naturally enough repelled by a mind that has become stale and hard.

In the second place, the teacher should possess the broadest culture possible for him to attain. I have already affirmed that he should possess a growing mind. In that I referred more particularly to growth in knowledge of the subjects taught; growth that is tangible and apparent to the pupils; a growth, the example of which will be felt, and which will stimulate them in the special work to which they are given. There is, however, a broader culture that refines the tastes and polishes the mental habits; that infinitely broadens and dignifies the fields of thought; that does not suffer its possessor to run on forever on the narrow-gauged track of technical or professional study; that, in short, marks one, not as a mere scholar, but as a philosopher. Let no one be surprised at the term. We are all philosophers in our degree. To be such in a high degree is the ultima thule of mental culture. No education is complete until it becomes philosophical.

The complaint is often heard that teachers become fussy, arbitrary and narrow in their views, and good for nothing else. And this statement is true, except the last clause, for if one has fallen into that condition, he is certainly unfit to teach. Such doubtless is the tendency in this profession, but it can be resisted, and that successfully. There is, however, but one way in which to do it, and that is by a persistent and liberal culture of the mind. I have, in my experience, met with many teachers whose society was as rich and genial as any I have ever found; but this has always come of constant mental activity and discipline. Believe me, teachers, by this means, and by this only, can you resist the narrowing influence of your work. You must learn to wield a free and intelligent judgment in various spheres. You may, for instance, even in the midst of your work, by a proper training of mind and heart, possess tastes that shall be so far consonant with the true principles of art as to catch the inspirations of nature. Sympathy with nature is

one of the most potent preventives of the evils to which I have alluded. A teacher, furthermore, should be in constant communication with the great masters of thought, especially in our own language. To neglect this, seems to me inexcusable. It argues a smallness of mind and perversion of taste that should find no place in the work of instructing living souls.

It will be seen that the culture of which I have spoken is synonymous with discipline, not in any narrow scholastic sense, but that discipline which is general and symmetrical development and control of the soul powers, and which comes of earnest thought and communion with master thinkers. It includes also a cultivation of heart as well as of mind.

These two requirements, then, to which I have called attention, growth and culture, direct us in our answer to the question first proposed. The work that devolves legitimately upon a teacher does not cease when he quits the school-room. The advice is often given to teachers that they take no thought of school matters out of school hours. The advice is good when properly understood. The detracting part of school work should be left behind. The mind should be left free for pleasanter, and, in one sense, more profitable occupations. The very change of engaging in the work which I have claimed to be necessary will prove restful. Of course no one would maintain that no time for pure recreation and social enjoyment is to be taken. A suitable proportion of time should be devoted to other things, according to circumstances. What we do mean is, that time should be highly valued and wisely systematized, and that no days be allowed to pass without something done for mental or moral improvement. How many teachers act on that plan? Or, how many have any plans at all when out of the school-room?

It seems necessary to add one thing more in this connection. The culture of which I have spoken is not obtained by reading second-rate works and first-rate trash. In this age we are overwhelmed with books and magazines, which, to an educated person, are not worth the paper on which they are printed. I have no tirade to make against novel reading. Something of it is necessary. It serves for mental recreation, for quickening and cultivating the imagination, and should serve for instruction. Among so many books, the art of wisely selecting is of chiefest importance, and one of which many of our teachers are manifestly incapable. There are works of fiction so healthful in tone, classical in

style, instructive and suggestive of thought as to be quite worth reading, aside from the interest of the plot. These are always the ones to be chosen. But even if such are selected, which I find to be by no means always the case, they should never occupy more than a fraction of a teacher's time. Exclusive novel reading is sure, in course of time, to make a shallow, insipid, and stupid mind. The mind needs to be nourished, not tickled and pampered. The body cannot be trained to vigor on wine and pastry; no more can the mind be disciplined to power with the figments of a novelist's brain. If any will consider the matter, they will be surprised at the number of books that should be placed on the list of fiction.

Teachers should read solid and thoughtful productions, not merely for information and discipline, but for actual utility in school work. A teacher should take a sharp and wakeful interest in the reading of his pupils, and should guide them in forming a literary taste. This is a work as important as it is much neglected. To do this, a teacher must of course possess a pure, literary taste himself. He must be trustworthy in his judgments of what is true and valuable in letters. He must have skill to suggest and direct so that the young may be at the same time interested and improved, for the former is always a condition to the latter.

There is, then, an obligation resting on teachers in a peculiar manner to make the most of their time and opportunities. The more I come into a knowledge and acquaintance with the common-school teachers of our state, the more convinced I am that there is abundant occasion for these suggestions that have been made. While they are, doubtless, fully equal to the same class in any other state, there is still a great lack of intelligent effort and systematic improvement. There are too many puddles in our school-rooms, with no fresh influent streams. Of shallow depth at best, the little water they gathered from some fortunate shower in youthful days has become stale and powerless to stimulate. This is not too severe a statement, for there is always a remedy, and if teachers will not use it, let them not complain if the truth be told.

I have thus, in a general way, discussed the work of the faithful teacher out of school hours. I may, at another time, take up the subject in a more particular manner, and show how this work can be done.

Carpets are usually bought by the yard and worn by the foot.

THE OLD AND THE NEW.

BY SARA A. PECK.

O have you forgotten the school-house, Hal,
Where daily we used to go?
Full many a year has flown since then,
But yet you remember, I know.
Close by the roadside, there it stood,
So quaint, and low, and brown,
With never a tree for grateful shade,
When summer's heat came down.
Ah, many a pleasant morning, Hal,
We've lingered down by the brook,
Dreading to enter those terrible walls,
And take up the slate and book.
The spelling it seemed we *never* could learn,
And over it oft fell asleep,
The teacher was cross and stupid, too,
But then you know she was *cheap*.
There seemed no sense in geography,
And grammar was only for girls,
And just to think of those 'rithmetic sums,
My brain—even now it whirls.
Yet all through our boyhood days, Hal,
We sat there, you and me,
Till I burst through the prison walls,
And ran away to sea.
It seems all like a dream, Hal,
As I look o'er the mist of years;
And I'm a wanderer now, Hal,
With little of life that cheers;
But stay—I have something to tell you:
As I passed through the town this morn,
Gazing along the old pathway
For the old school-house, beaten and worn,
'Twas gone; but another one stood there,
So airy, and high, and white,
It seemed almost like a palace,
As it first rose up to my sight;
And the sound of childish voices
Came sweet and clear on the air;
And softly I stole to the doorway,
And waiting, I listened there.
I know not the reason why, Hal,
And strange it may seem to be,
But I thought I was back in my childhood,
And knelt by my mother's knee.
The singing ceased, but I lingered;
A class came out to recite;
Not one was stupid or sleepy!
But all seemed happy and bright.
With crayon each passed to the blackboard,
And almost as quick as thought,
As if by fingers of magic,
A long row of maps were wrought;
And then a wee lad, in clear accents,
Without the slightest recoil,
Told about the country,
The surface, and climate, and soil.
Enraptured, I gazed and listened,
Forgetting the world and its strife,
And I heard there more of geography
Than I ever was taught in my life.
* * * * *
Ah! most of my years have flown, Hal,
And my hair is getting gray,
But I sigh to think what I might have been,
Taught in this blessed *new way*.

A SUGGESTION RESPECTING THE TRUE WORK OF THE HIGH SCHOOL.

BY S. B. FROST, DANIELSONVILLE.

The arguments for the gradation of our common schools have been so cogent and so frequently urged, that at the present time there is scarcely an educator in the state, or an intelligent friend of education, who does not believe in the efficiency of gradation. We need not, therefore, at this time, present any arguments in its favor, or suggest many new features.

A well-educated man has been aptly defined to be "one who knows a little of everything, and a good deal of something." Somewhat amplified, it may be thus stated: A good education involves, first, a *general* culture which will enable one to sympathize with his co-workers and appreciate them; also, such general knowledge of the arts and sciences as will enable him to understand their leading principles, as applied in the ordinary affairs of life. Secondly, a *marked* excellence in some special department. To use the words of another, "as it is the function of the educational system of our state to qualify its youth for becoming educated men and women, this should be the standard of judgment—does our system develop its pupils naturally, and without waste of time and money?"

Germany long ago met and answered this truly momentous question for herself, and answered it, too, practically and efficiently. If it were asked, what nation, upon the shortest notice, could produce for an emergency the greatest number of skillful and trained persons in any or each of the necessary departments of government, the answer would unhesitatingly be, Germany. Let us briefly, then, examine her system of education, and, if possible, learn lessons of wisdom thereby.

The German theory of education, compressed within a few lines is as follows: For *general* preliminary training, the utmost rigor in holding pupils to the prescribed course of school work; for *special* development, the utmost freedom in the course of studies. The foundations are laid slowly, elaborately and conscientiously, in the *gymnasium* or *realschule*. The pupil is held strictly to his daily and yearly tasks, neither hurried nor neglected. The classes are small, the teachers have all passed the same training. Nothing like cramming is tolerated, but the hours are taken up in teaching and explanation quite as much as in hearing recitations. When the pupil has received his last examination, he is free to go to the university. He is free to choose the

teachers under whom he will study, and has perfect control over his time. The Germans thus acknowledge this fundamental truth: that up to a certain age, *all* minds may be and should be taught *uniformly*; after that age has been reached, compulsory training is alike odious and unprofitable.

In view of the above facts, and for reasons to be hereafter adduced, we propound the following scheme for our state system of education: *First*, properly grade all the schools in which is taught what is commonly denominated the common English branches; let the course of study embrace that which is essential to every well-informed person to know, such as a complete course in reading, writing, arithmetic as far as algebra, history, grammar, geography, and the elements of natural science; let these be taught with method, upon the most approved practical systems, the student to be advanced upon merit only; let there be faithfulness combined with proper qualification, on the part of the teacher; let the student be trained closely to his work, with no shirking, but in constant adherence to discipline and requirements. *When* the pupil has mastered this preliminary training, he is ready for that which we denominate the high school, in which are or should be taught the higher mathematics, natural science, Latin, Greek, German, or French; or, to be brief, the high school should be so conducted as to prepare thoroughly for the university or college, the scientific, the law, and the medical schools, and for the practical mercantile business of life. This much, at least, involving some *special* training, the state should afford to her children.

We reiterate, then, that in the common graded school the pupil should master the elements of a general education. Then he is to enter the high school. Up to this point he has been ruled and guided with firmness, he has been taught obedience, his mind disciplined. Thenceforth he is to enter upon a new course of instruction. Let it now be distinctly understood, he is to choose his studies, to direct his attention to special training. Let there be, as before, study hours, recitations, and some other requisitions; but the pupil must now have the direction of his studies, subject only to the condition that sufficient be taken to fully employ his time. The teacher should *advise* and counsel, but never *insist* that he take this or that study. The position of the high school should be *intermediate* between other graded schools and the college or university. It should combine both of the grand principles of the Germanic system, lessening the

rigor of the graded school in respect to compulsory studies, yet not giving the freedom of the university; for it will be necessary to have particular hours of study and some disciplinary requirements. When we keep in mind the noble results wrought out by the Germanic system of education, when we duly consider the definition of an educated person, when we regard both the general and the special training necessary for proper mental development, we must urge a greater freedom of choice in the instructions of the high school. Its position is both intermediate and final. Its plan of education must be intermediate, and combine both the general and the special training. It is necessarily, in a great measure, the last school in which the mass of our children will be trained. It should be, therefore, a school of results. The higher and the nobler qualities of our manhood are to be developed, such as judgment, decision of character, self-respect and self-reliance. Let the pupil, therefore, as it may be his last educational chance, exercise these noble traits of our manhood in the high school. Call in play *his* judgment, cultivate *his* decision of character, develop *his* self-respect and self-reliance by showing him proper regard, and so placing him that he *must* of necessity *use* these qualities. Inculcate the truth that the man is only the boy developed; that those dispositions of mind he now uses in the school-room he will use in after life.

As long as our high school is continued on its present plan, regard will be had only for the first-mentioned requisite of a truly educated man. We shall turn out our pupils only half educated. The special training *must* be had. Where shall the pupil go? As it is now, he must go to the counting-room, the store, or the private preparatory school. Shall the state thus begin the good work and stop when half completed? Shall we look to private enterprise? No; our high schools can be rendered efficient to educate both generally and specially. Qualified teachers can be found, and the state can thus discharge her full duty to her children.

We present the following additional reasons for our position:

1st. Pupils must know what to do as well as to do. Our training upon the present graded plan compels doing. Our high school work should be to teach the pupil to know what to do.

2d. It will develop individuality. In the graded school, each day, each hour, has its allotted task. The pupil is not expected to investigate beyond the set plan of instruction. Other minds plan and

act for him. Let our high school develop his individuality. In the great drama of life we must choose our parts and act our characters; we should prepare beforehand successfully to act our own part and not another's. Why should there be one education of the schools, another of real life? Why have most pupils, when they have passed through the ordinary curriculum of school duties and entered upon the struggle of life, to learn, as it were, for the first time how to live? Educate the pupil to think and act for himself. He will have to think and act. Let him learn early to do so upon proper principles, guided by a proper education.

3d. It will banish aimless study. Let the teachers of any of our high schools ask individual pupils what plan they have for life; the replies will show that few have any definiteness of purpose. Our pupils are studying what is prescribed for them, without forethought or care for the future. Aimless students make aimless men and women. The world is full of such, waiting for something to turn up. To-day, driven by necessity, performing the first thing that offers; to-morrow, charging Providence with their misfortunes. They live from hand to mouth, drifting purposeless with the tide, and finally disappear, unnoticed, and unremembered.

Now, if it were understood by the scholars, that, upon making suitable proficiency in their education, they were to choose for themselves a course of special training for a specific sphere in life; if this fact was kept before them by their teachers, that the training must be first general, then special; that a good foundation must be laid under the guidance of those who have had experience; that their faculties were to be gradually so developed as to fit them to make this choice; then, when ready for the high school, an intelligent choice would be made, individual peculiarities would be fostered, each student would have an aim and purpose in life. Men and women, fitted to lead and to act in the affairs of the state and private life, would come forth from our schools a power and an influence of which the state would be proud. Then we would have educated men and women who know a little of everything and a great deal of something.

READING.

BY J. F. ANDREWS, STAMFORD.

Without exaggeration, I think it may be safely affirmed that no other branch is so poorly taught in our schools as that of reading. No branch, in the estimation of many teachers, requires so little at-

tention or study as this, and none seems to have fallen into such a monotonous dullness, if not deadness, in the methods pursued, or rather, too often, in the absence of all method in teaching it. Reading may mean much or little. Too often it means little. It is, in fact, a fine art, though it be not reckoned among the fine arts. Intelligent school officers admit its importance, and are justly proud of proficiency in it. If reading is badly taught, the responsibility must lie at the door of the teacher, who, from habits of imperfect enunciation, want of familiarity with the elementary sounds of the language, and an imperfect estimate of what constitutes good reading, fails to teach on any higher plane than that of his own standard. It may be true that a person who is not a proficient in singing can still be a successful teacher; but to succeed as a teacher of reading, the instructor himself must read well. Reading is largely though not *chiefly* a mechanical process, and instruction in it ought, in the nature of things, to begin with real culture, and in the primary school. But it must not end here. Drilling in the elementary sounds ought to be made daily a part of the reading exercise in schools of *every* grade, for in no other way can defective utterance, common faults of speech, and indistinctness in reading be overcome.

The vocal organs, like the other organs of the body, must be habitually exercised to give to them strength and efficiency; therefore every class should have a daily exercise in vocal gymnastics.

Words, as they fall from the lips of the teacher or the scholar, should be clearly and distinctly enunciated, with the clearness and distinctness of a coin newly issued from the mint, in which tongue, teeth, and lips, perform their specific office. Every teacher knows how difficult it is to bring a whole class to such a point of improvement as that every member of it shall read distinctly and well. But it cannot be questioned that this ought to be the measure of the teacher's success, and by an intelligent use of means available to all, it *may* be so. No mere familiarity with dead rules, or carefulness in minding the stops, can compensate for the living model in the person of the teacher. He is, and must of necessity be the model for his pupils, whether in excellences or defects. He must show how a passage should be read by reading it first for his class, and then drill singly and in concert upon the different elements and combinations occurring in it, and this not at wide intervals of time, but as an important part of every reading exercise. By perseverance in such a course he will perceive a

gradual development of vocal power in the pupil, and at the same time will have invested this subject with a fresh and abiding interest.

But this attention to the mechanical part of this subject must not absorb our entire thought. The question, "Understandest thou what thou readest?" must be pressed home upon the pupil, for if he fails to "gather the sense" of that which is read, then all other excellences are rendered nugatory and profit nothing. Horace Mann declared it to be his conviction "that eleven-twelfths of the scholars in our reading classes do not understand the meaning of the words they read." Be this as it may, at the present time it is the teacher's duty to make *every* such exercise interesting, instructive, and well understood. A lesson of this kind need never be dull, and if it is so, the teacher is in fault, for its possibilities are almost limitless. There is scarcely a lesson but contains historical allusions, or facts of science, or familiar references, or words to be defined and spelt, the tracing out of which furnishes the best kind of mental exercise. Then there must be as much of variety introduced as is necessary to save the exercise from monotony and routine. Read sometimes in concert; sometimes in poetry restrict to a single line; sometimes allow reading till a mistake is made; let boys and girls alternate; read slowly; read rapidly; make mention with approval of the best readers; and once a week introduce into the class a child's magazine, to be read by the entire class. Thus there should be constant and persevering efforts to arouse the attention, "to make up the mind" in the pupil, to cultivate a wholesome taste, to point out, as far as it may be judicious, courses of reading, and to compel the pupil to feel that the work of the school is inseparably connected with the life of the scholar at home, as well as his life in more general society.

YOUNG TEACHERS' DEPARTMENT

THE METRIC SYSTEM.—No. 1.

BY EMMA M. GOLDTHWAITE.

Notwithstanding the superiority claimed by some mathematicians for the binary and duodecimal systems of numbers, for conciseness of numerical expression and convenience in rapid calculation, the decimal scale cannot be excelled, and we give to it the first rank among known systems. Should we

now substitute for our heterogeneous collection of compound denominate numbers the metric system of weights and measures, we should then have an entire system, at once complete, harmonious, and beautiful. Let us consider some reasons why such a change would be advantageous.

It is eminently desirable that there should be a universal system of weights and measures. The denominations of foot, yard, acre, pound, &c., vary in different countries and sometimes in different counties and provinces of the same country. Thus in all intercourse between nations, these denominations must be changed and reduced continually, causing not only a vast amount of labor, but oftentimes serious inaccuracies. It was this fact that first incited the French *savants* of the 18th century to discuss the subject of weights and measures, and to develop a national system for France. This, as we shall find, is admirably adapted for a universal system. The unit is invariable, being deduced from the circumference of the earth, and must, if accurately measured, be the same everywhere. It is insisted by some, I believe, that there were serious errors in the calculation of the length of these arcs of meridian, but however that may be, the length of the meter is now assumed as a fixed quantity, and is the unit, not alone of measures of length, but indirectly of measures of surface, volume, capacity, and weight.

This system is constructed decimally, ten units of one denomination making one of the next higher. Great simplicity is thus gained, and the acquisition of this subject made easy to the youthful learner. In our present table for long measure we find *twelve* inches make one foot, *three* feet make a yard, *five and one half* yards one rod, &c.

The constantly-varying rate of increase makes it a source of almost unconquerable difficulty to our young friends of the public schools; and we cannot lessen their trouble by explanation, for the original reasons for this division into yards, feet, &c., even when given, are of no great practical value. Many a long, weary day have we spent in school, trying to account for the fact that a pound, according to one table, is composed of sixteen ounces, while in another of only twelve.

Some object to the metric system on the ground that the names of the different denominations are long and awkward. It is true they are long, and sound strangely enough at first, but each one means something, and the number of terms is so much less than those with us employed, that the work of acquiring them is comparatively simple.

This system, so beautiful in every respect, is used to the exclusion of all others in France, as well as many other of the European countries. It was legalized in England by Parliament in 1864, and in the United States by Congress in 1866. It is now used in coast-survey and in scientific researches, and bids fair to be more generally adopted still.

By act of legislature in Connecticut, in the year — it was recommended that the system be taught in all the public schools of our state. If rightly taught, it can easily be understood, and children will enjoy it and recite with as much enthusiasm as on any other topic.

We will commence with measures of length, supposing all preliminary definitions of length, surface, solidity, or volume, angles, squares, &c., to have been already taught.

Let the teacher bring into the class a stick measuring 39.37 inches, or if that cannot be conveniently done, let her represent a line upon the blackboard of this length.

Teacher.—I have here the representation of a length equal to one ten-millionth of a quadrant of the earth, or one forty-millionth of the circumference of the earth measured through the poles. This length is equal to about 39.37 inches, according to our measurements, and from a French word *metre*, meaning a measure, it is called a meter. What is its name?

Class.—A meter.

Teacher.—Measure off upon the blackboard a meter. Tell me the number of meters in the length and width of this room. What is the height of that post? The class will answer as best they can, the teacher aiming at giving them an idea of the length of the meter by comparing it with the denominations in our own system.

Teacher.—Now if I divide this meter into ten equal parts, what part of the whole meter would each part be?

Class.—One-tenth.

Teacher.—Now since it is one-tenth of a meter, we name it by placing before the word meter a Latin prefix *deci*, meaning ten. What then will one-tenth of a meter be called?

Class.—A decimeter.

Teacher.—If each decimeter be divided into ten equal parts, what part of the whole meter would each one be?

Class.—One-hundredth.

Teacher.—Right. As before, we take a Latin prefix, *centi*, meaning hundred, and place it before

the root word. Who can tell me what its name will be?

Class.—Centimeter.

Teacher.—How many centimeters then are there in a meter?

Class.—One hundred.

Teacher.—How many in a decimeter?

Class.—Ten.

Teacher.—If each centimeter be divided into ten equal parts, each portion will be what part of a centimeter?

Class.—One-tenth.

Teacher.—Of a decimeter?

Class.—One one-hundredth.

Teacher.—Of a meter?

Class.—One one-thousandth.

Teacher.—Since this is then one one-thousandth of a meter, from the Latin we take the prefix *milli*, and call the denomination a millimeter.

In a similar way the teacher will give the names of all the other denominations above meter, showing that the prefixes for the multiples of a meter are of Greek origin, and referring each denomination to the part or multiple it is of the meter.

If taught thus carefully, the pupils will form the table, beginning with the lowest denomination, without having seen it in any text-book, as:

10 millimeters = 1 centimeter.

10 centimeters = 1 decimeter.

10 decimeters = 1 meter.

10 meters = 1 dekameter.

10 dekameters = 1 hectometer.

10 hectometers = 1 kilometer.

10 kilometers = 1 myriameter.

Instead of writing out the whole word every time it is used, there are certain abbreviations which condense the expression, as for millimeter we write mm., centimeter, cm., decimeter, dcm., meter, m., dekameter, dkm., hectometer, hm., kilometer, km., myriameter, myrm.

The unit of the system is a meter. As the denominations increase in a "tenfold ratio," we may write them all as we write United States money or decimal fractions—for instance, 6 kilometers, 5 dekameters, 3 meters, and 4 centimeters, may be written 6053.04m.

The denominations may be very easily reduced from a higher to a lower, or the reverse, by simply changing the position of the point. In adding, subtracting, &c., the quantities should be reduced to meters for convenience.

Having then simply introduced my subject, I will leave the remainder of measures of length and the succeeding topics for another article.

CAUSE AND EFFECT.

BY L. B. FROST, DANIELSONVILLE.

The solution of examples in compound proportion in arithmetic may be simplified by the use of the principle of *cause* and *effect*.

I have used this process for nearly fifteen years, and to-day am as heartily in its favor as when I began. I have found no pupils who did not readily comprehend both the principle and its application. I subjoin a few illustrative examples. This same principle may be carried into many other arithmetical processes, but this will suffice for the present.

GENERAL RULE.—Determine the causes and the effects of the main statement. Place the causes at the upward *left* side of the vertical line, the effects at the lower right side of the same line. Determine the causes and the effects of the next statement. Place *like* causes opposite *like* causes, *like* effects opposite *like* effects. Then call the side containing the vacant term or 0, divisor, the other side dividend, and obtain the required result by cancellation or otherwise.

Example 1.—If 3 men, in 16 days of 12 hours each, build a wall 30 ft. long, 8 ft. high, and 3 ft. thick, how many men will be required to build a wall 45 ft. long, 9 ft. high and 6 ft. thick, in 24 days of 9 hours each?

EXPLANATION.—3 men, 16 days, 12 hours, are the causes of the leading statement, that is, the men, days, and hours, produce a certain result: 30 ft. long, 8 ft. high, 3 ft. thick, are the effects, the things done. We place 0 opposite 3 men, it being the vacant or required term, 24 days opposite 16 days, 9 hours opposite 12 hours, 30 ft. opposite 45 ft., 8 ft. opposite 9 ft., 3 ft. opposite 6 ft., and by cancellation and multiplication obtain as the required term or cause necessary to complete the chain of reasoning, 9 men.

Example 2.—If \$100 gain \$8 in one year, what will \$300 gain in 9 months.

EXPLANATION.—\$100 and 12 months produce \$8, hence they are the *causes*. \$8 being the result produced, is the *effect*. The principal and the time produce the interest. We obtain the required term by cancellation and multiplication.

SPELLING AS AN EDUCATOR.

The reader must bear in mind that spoken language, as a means of communication, is greatly superior to written language. That which upon paper looks dull, dry, and difficult, becomes in the mouth of a good speaker lively, interesting, and plain. The printed page may be made to reflect

the clear, cold light of thought, but the real presence of the good teacher glows with the genial warmth of human feeling. Like the sun, he sheds abroad both light and heat.

Manner is everything in teaching, and is just what he cannot show on paper. We can, however, show a current of thought. Let us suppose we wish to point our spelling in the direction of geometry; to call attention to the circle and to the fact that the word round is not fit for scientific uses on account of indefiniteness, and to show the necessity of other more definite terms, and especially of the words circle and circular.

EXAMPLE I.

Spelling! Slates! School in order! (That is, erect in straight rows, faces to the front). I shall draw something for you. Watch me and see how I do it. I hold one end of this string fast to the board with one finger; I fasten a crayon to the other end, and then draw the line, thus. You see that I have enclosed a portion of the surface of the board by this line. This is a figure. You may write the word as the first of our lesson. There are many kinds of figures. Here are two others. (Drawing a square and triangle). These figures are not of the same kind as the first one. Can you tell me why? The last two are made of straight lines; the first is not. You mean right, but we do not say that figures are made of lines, but bounded by lines. You may write bounded for our second word. What kind of lines bound the last two figures? Straight lines. Yes; write those words.

Now we do not need these two figures any more, so we will rub them out and leave only the first one. Is this figure bounded by straight lines? No; by a crooked line. No; that is not the word. The limbs of trees grow crooked, and boys make crooked marks when they begin to learn writing, but this is not a crooked line. James: It is a curved line. Yes, very good: write. Did you ever look down the railroad, and see that in some places the rails run in straight lines as far as you can see, and in other places the track turns off to one side or the other? What do you call such a place? A curve. Yes, a curved line is called a curve, which is easier to say. Write curve. By what is this figure bounded? By a curve.

Now, what would you say of the shape of this figure? It is round. Write round. What is this? A cent. Write cent. What is this? The stove-pipe. Write the word. What is the shape of the stove-pipe? Round. What is this? A globe.

What shape? Round. Are the cent, the pipe, and the ball of the same shape? No. That is funny; you tell me that they are not of the same shape, and yet each is round. What is the matter? The word round means too much. It is like the boy that was Jack-at-all-trades and master of none. We must have a word for each kind of roundness. Can any one tell the name of this figure? It is a circle. Yes, write the word.

When we look at the side of a cent we see a circle, so we say the cent is circular in shape. Write this word. Tell me something that is circular. A wagon wheel, a hoop, a button, a dial of a clock. Herman: My father works with a circular saw. Yes, saws are sometimes made in the shape of a circle, with notches cut in them for teeth. Samuel: I saw a circular window. Yes, write all the words. Now let us read our spelling lesson:

1 figure	6 round	10 circle
2 bounded	7 cent	11 circular
3 straight lines	8 stove-pipe	12 wagon wheel
4 curved line	9 globe	13 hoop
5 curve		

These are good words: we will have Jenny write them plainly on the board, so that we can correct our spelling.

EXAMPLE II.

Pursuing the same subject, by means of questions and additional lines drawn in our circle, we may find the words:

1 center	5 circumference	9 radii
2 curve	6 diameter	10 arch
3 equally distant	7 equal length	11 arc
4 equidistant	8 radius	12 bow

By such means we seek to give the pupil perceptions which in the later years of school life will serve as the foundations of true culture. That these ideas will often be crude and erroneous does not annoy us, for we remember the crudity and ignorance of childhood. It is only after repeated observations that the true location of any fact can be ascertained.

EXAMPLE III.

We may turn our spelling toward anatomy by naming and alluding to the uses of the different parts of the human body, as:

1 head	11 eyebrows	21 chin
2 hair	12 pupil	22 jaw
3 scalp	13 pupil	23 tooth
4 crown	14 iris	24 teeth
5 skull	15 cornea	25 incisors
6 face	16 nose	26 eye-tooth
7 eye	17 nostril	27 canine
8 eyeball	18 bridge	28 grinders
9 eyelid	19 cheek	29 molars
10 eyelash	20 lip	30 gums

These words are easy and adapted to an earlier age than those of the former examples. Who can estimate the advantage of taking these words in

their connection, so that they are seen to represent parts of one whole. When the ordinary names of the parts of the body are thus taught, we may teach the names of the bones in like manner.

EXAMPLE IV.

Water is found in—

1 puddles	8 bayous	15 oceans
2 ponds	9 billy-bongs	16 seas
3 lakes	10 pools	17 gulfs
4 marshes	11 rivers	18 bays
5 swamps	12 creeks	19 estuaries
6 sloughs	13 rivulets	20 friths
7 lagoons	14 rills	

How many of the essential ideas of geography are here?

EXAMPLE V.

How can we teach geology till the pupil understands such words as these :

1 earth	8 rock	15 petrify
2 soil	9 stone	16 petrification
3 clay	10 layers	17 aqueous
4 loam	11 stratum	18 igneous
5 sand	12 strata	19 metamorphic
6 drift	13 stratified	20 fossil
7 alluvial	14 unstratified	

By these examples we are trying to show how some of the most essential ideas of each science may be brought before the mind of the pupil indirectly, and under circumstances most favorable to their passing into his mind, and becoming a "part of his being beyond his control."

We propose nothing more than to make spelling instructive by making it of collateral assistance to us in our other labors. Geometers can only be made by long and patient study in riper years, but that is no reason why we should not call the child's attention to certain figures and their properties. The truth is, that we need to have this knowledge of figures years before we are called upon to use it in reasoning.—*N. Y. School Journal.*

MISCELLANY.

GREEK SCULPTURE.*

I propose commencing with the history of Greek sculpture, not because the study of the arts of nations whose histories began earlier than that of Greece is uninteresting or uninteresting ; but Greece was the first to develop and establish principles in the Fine Arts, and, fortunately for us, it was in the enduring materials

*A lecture introductory to a course on "Greek Sculpture," to be given in the Yale School of the Fine Arts, Monday evenings during the present collegiate term, by D. Cady Eaton, professor of the History of Art in Yale College. This lecture was delivered Monday evening, Jan. 8, 1872.

of brass and marble that her artists achieved their greatest triumphs. There is sublimity and grandeur in the winged bulls and colossal heroes of Assyrian art : and the basalt kings of Egyptian dynasties are shrouded in impressive and solemn mystery. But each Assyrian bull is the counterpart of its fellow, and all the Egyptian heroes have the same straight fingers, the same stiff toes, and the same impossible anatomy. They are alike in countenance and in dress. Sitting or standing, they present no variety of action. Their positions are stereotyped, and their expressions frozen. The great wonder is how the rules by which they were carved could have been preserved through so many generations, for all Egyptian sculpture might have been turned out of the same studio.

In Asia and Africa the arts were the slaves of religion. The artists were priests, who exercised their profession within narrow limits, in accordance with rigorously-prescribed rules, and always for religious purposes. Forms were symbolical and as sacredly preserved as the doctrines of the religion they symbolized. Greece was the first of civilized nations to make religion as free as air, and to loosen the fetters of superstition that bound the arts.

Again, Greek art was progressive. It budded, it flowered, it faded, drooped, and died. We deduce from its study laws of growth and laws of decay. It was sensitive to all the peculiarities of Greek character, and to all the changes in Greek history. It was rough and self-distrustful while the nation was in its school days ; it was solemn and dignified while work was earnest and faith in the gods intact ; it exulted in national triumphs and became with the nation luxurious and effeminate ; it was corrupted with the corruptions of national spirit and was conquered with the country. It did not long limit itself to affording objects for religious veneration. It embellished literature and illustrated history. It was domestic as well as public. It made colossal statues of the gods for the worship of the nation, and was no less true in carving a simple memorial on the tombstone of a humble citizen. In short, it lived as Greece lived, and died with it. It has fixed, for the instruction of all ages, unalterable rules. Without studying Greek art, it is worse than useless for any one to attempt to be a thorough artist.

In order to understand any school of art, we must know something of the race that produced it, of their history, of the country in which they dwelt, and of the external influences brought to bear upon them. I shall merely touch upon this part of the subject, as to many of you the history of Greece is as familiar as that of your own country, and the poetry and prose of all languages are full of descriptions of Greece and the Greeks. A given race, in a given country, under given circumstances, cannot be relied upon to produce a certain school of art. The elements are neither chemical nor

mathematical, but of a far more subtle nature. Art instinct is a plant of wondrous growth. At times it flourishes where the land is sterile, and the winds cold and biting. Then again, all favor of nature and circumstance fail to give it vigor. Still it is not beyond such influences, and consequently the circumstances of the great artistic periods of the world's history must be studied.

Therefore for a moment, *the race*. Philologists point to a time when Indians, Germans, Celts, Latins, and Greeks, were all one race, spoke the same language, inhabited the same country in the heart of Asia, and possessed the same degree of culture. Later, Latin and Greek are still one, but separated from their brethren. They push forward along the southern peninsulas of Europe and grow apart in Italy and Greece. The Indo-Germanic race is the race from which we spring. Perhaps we may therefore form a fair idea of a Greek by comparing him to one of ourselves. In stature and appearance, the average Greek may be well represented by the average Anglo-Saxon. The Greek ideal face is not the face of Greek portraiture. The busts of statesmen, and warriors, dug from Attic soil, present faces such as we meet daily in business and social life, and offer that variety of feature and expression that is always found in free and enlightened countries. Intellectually, the Greek was quick, keen, versatile, and philosophic; most abundantly supplied with what the French call "*esprit*," that is, a vivacious and sparkling wisdom; and not lacking in Yankee smartness, that is, a vigorous and inquisitive activity. In early and legendary periods, Grecian heroes are as renowned for cunning as for force, and cunning achieves at least equal results. It is not Achilles but Ulysses who brings a life of adventure to a happy and successful ending—the cunning deep-planning Ulysses of many wiles, the most successful liar of history or fiction. All through the history of Greece and in every department of her life are evidences of the wonderful and superabundant intelligence of her children. Their discoveries in mathematics, for instance, were far in advance of the requirements of their simple lives, and not even yet, in the complications of modern civilization, has their practical use been exhausted. Kepler, in the beginning of the seventeenth century, was the first to avail himself, in the science of astronomy, of the properties of conic sections discovered by the Greeks hundreds of years before Christ. Necessity with us is the mother of invention, and the child is always under maternal control; but with them, as with Zeus, son of Kronos, the child supplants the parent and rules illimitably. Even when the national spirit is broken and Greece is but a province of Rome, she still furnishes the world with its rhetoricians, logicians, and artists.

In morals the Greek possessed a very simple and very practical standard. His highest principle of action was patriotism. Things that made him fitter to serve the state were virtues, and all things that unfitted him for the

performance of his duties as a citizen were vices. His body must be trained to meet the demands of a soldier's life, and, when trained, exhibited as a model and incentive. His mind must be informed of his duties to the state, and strengthened to perform them. Excess in all things that enervate mind or body was wrong. Moderation in everything was permitted. Our morality is spiritual and internal; theirs was material and external. Ours is a conflict between flesh and spirit; theirs had but one practical object to which both body and spirit were harmoniously subordinated. Their history is, therefore, full of instances of wonderful patriotism, and abounds in acts that Christianity considers scandalously immoral.

That the Greeks had a keen insight into nature, and a quick perception of all beauties of nature and art, is evident from the remains in verse and marble of her poetry and prose. The whole gamut of poetic feeling is again and again struck and chorded.

Look for a moment at the country where this gifted people dwelt, and see what a suitable habitation it was for them. Greece is a triangular peninsula advancing from Turkey into the sea. Though no longer than Portugal, numberless capes, promontories, and bays, give it as much sea coast as has Spain. Mountains running through it in all directions, cut it up into patches and give variety of temperature and products to every part. A fringe of islands and colonies on the opposing coasts complete the national domain. The climate, even now, is described as lovely, and must have been delicious when every plain was tilled and the now-barren heights were clothed with forests. Mountainous countries have ever been the abode of freedom, and the sea ever incites to enterprise. All the states of Greece cultivated liberty within their rock-bound territory; all emulated in adventure on the common sea, and brought back knowledge of each other and of the outer world. In Attica, midway between north and south, frosts were rarely known, and all over the Peloponnesus, the heats of summer were tempered by refreshing sea breezes.

It is not my purpose, as I have already said, to do more than glance at this part of the subject. I am not of those who deduce schools of art from a combination of physical elements. It was not the mildness of the climate, inducing scantiness of attire, that led the Greek mind to the study of the human form and to perfecting its representation; for the climate was still milder on the Nile and on the Euphrates, where garments were worn full and heavy, clothing and hiding form. It was love of the beautiful in form that led the Greeks to take advantage of the mildness of climate, and the natural innocence of the heart, that saw no offense in the display of beauty. Switzerland and the Tyrol far surpass Greece in the grandeur of natural scenery, and nowhere has the tree of liberty found more genial soil. If Tell never existed, he has as strong a personality as the most authentic character of history, and Hofer's deeds rival

those of Leonidas. Yet nowhere have the fine arts had less life than in these two countries. In energy, in enterprise on land and water, in quickness of intellect, in fertility of ideas, what people approach the Anglo-Saxons? and yet to this day what has England done in the fine arts? On the other hand, the Dutch, whom we are wont to stigmatize as phlegmatic, who live in bogs and fogs, who rarely see the sun but when it passes from one cloud to another, and who pass their lives like beavers, half under water, battling with the elements for a handful of soil, have produced one of the finest schools of art in history, and that, too, in the midst of social, religious, and political disorders, that one would think sufficient to destroy every vestige of artistic feeling. Where the art instinct exists it will thrive in spite of all material opposition, and that too, in men who seem entirely unfit for its reception; for artists are noble and mean, generous and sordid, pure and vile, just as are other men. There are artists who will traffic with their noblest conceptions, and sell talent for a mess of pottage.

Take the history of Andrea del Sarto, whose compositions are second alone to Raphael's, and who often surpasses him in nobility and intensity of sentiment. Loaded with honors by Francis I., and charged with the purchase of works of art in Italy, he broke his trust and wasted his patron's money in debauchery; and then, when in old age poverty pressed him sorely, with an apparently ruined body and mind, he returned to his palette and painted, with the power of perpetual youth, works which equaled if they did not surpass the efforts of his earlier and purer days. Artists can ever be found who will represent that in which they disbelieve, as lawyers are ready to defend causes the justice of which is questionable. A poem by Giotto has lately come to light, in which that eminent artist in giving his views of life, its pleasures, and its sorrows, holds up to special ridicule the Franciscan monks and their real or pretended devotion to poverty. Now this poem must have been written at or about the very time, when, in the employ of the Franciscans, Giotto was covering the walls of their church at Assisi with emblematic representations of the attractions of poverty—frescoes that for depth of sentiment and purity of religious thought remain unrivalled.

I have no intention to disparage artists. But to classify them by themselves, as apart from and above the rest of mankind, is the great error. They are subject to the same intellectual and moral laws that govern others. Artistic talent does not bring exemption from the weaknesses and passions of ordinary humanity, and is no excuse for them. Industry and perseverance are as essential to success in art as in law or medicine. Patient industry has developed many a genius in the fine arts, while disorder and lack of application have often rendered its development impossible. In judging artists, and in our own artistic education, let us not suppose we are dealing with anything superhuman, or that without inspiration we shall fail of success.

There are a few points in Grecian history, and but a few, that are as milestones along our path. The first is the so-called return of the Heraclidæ, or emigration of the Dorians from the north to the south of Greece; driving out the former inhabitants and founding the Doric kingdoms of the Peloponnesus. This occurred about 1,000, B.C. The Dorians are the proper inventors of Greek architecture, and it could not have been long after the commotions caused by their irruption had subsided that the first strictly Greek temple was erected, and gave the world an entirely new artistic idea.

From the return of the Heraclidæ to the Persian invasion in 480, B.C., is the traditional and formative period of Greek art. Reliable dates and names are rare; yet in fragments that remain are evidences of steady progress in liberalization of ideas, proper appreciation of nature, and the formation of artistic types.

The next period to be remembered is the time following the defeat of Xerxes and the Persian hosts in 480 and 479, B.C. Then, under Phidias and his immediate followers, Grecian art attained its full development. Then patriotism, ever the best sentiment of the Grecian heart, was in its highest and purest state of exaltation. Through the heroic exertions and sublime devotions of her children, Greece had been freed from all danger. The Asiatic hosts had been driven back with such overwhelming defeat that there was no apprehension of their return; and the booty left behind sufficed for the erection of the magnificent trophies of history. That Phidias should have lived at this period, may be a remarkable coincidence, or he may have been a natural product, a necessity of the time. In these days arose the Parthenon, the sculptures of which still live to tell us of the full glories of Grecian art, the Erechtheum, and the gold and ivory statues of Pallas Athenæ, and of the Olympian Jove.

From the time of Phidias to the time of Alexander, 336, B.C., a period of 150 years, sculpture flourished in undiminished splendor, changing its characteristics, to be sure, but only to reveal new excellencies. During this period of civil wars and internecine strife, the purity of early faith was shaken. Patriotism was often lost in partisanship; sense supplanted piety; and individuals, not the state and its divinities, were feared and venerated. Art sympathized with all the changes. It lost the simplicity and purity of early types. It became sensuous; yet for the first time began to treat man individually and historically.

From Alexander to the Roman conquest in 146, B.C., the arts declined. Under Roman rule the arts were no longer the expressions of natural life, but existed merely as a profession. Still, the works produced at this time by Greek artists, in the pay of foreign princes, excite the highest admiration. The Laocoön and the so-called Dying Gladiator are, by many artists, assigned to this time, and are unsurpassed by the productions of any period of Grecian history.

The Greeks undoubtedly received their first notions of statuary from the Egyptians and Assyrians. The influence of these nations is clearly seen in early works, and can be traced far into subsequent history. The first statues were undoubtedly images of their gods, rudely fashioned in wood and stone. Many of these images, blackened with age and sanctified by tradition, existed long after anatomy was understood and a sense of form fully developed; just as in our day superstition falls down before formless stumps of the Virgin, claiming for them a celestial origin. In primeval times it was sufficient to say to the believer, "This is your god." His simple faith asked no questions, but worshiped. Soon, however, faith was invaded by sense and the worshiper demanded, in the image of his god, are presentation of the qualities with which his religion endowed him. To the Greek imagination the gods presented themselves in human shape. Their forms must, therefore, be the forms of men and women, but supernatural in strength and beauty. When faith departed, the ideals thus created remained, and were used to represent and ennoble the sentiments and emotions of humanity. First, religious sentiment without reference to form; second, religious sentiment combined with form; third, form alone, or form expressive of strictly human sentiments. These three steps are distinctly marked in the history of Italian and Gothic, as well as Grecian art.

In concluding this lecture permit me a few personal remarks. The Fine Arts have been the subject of much eloquent writing and speaking, and they will ever furnish themes to the poet and essayist. But this is to be a course of practical instruction. I shall place before you representations of works of art, describe them, and cite the best criticisms, that have been passed upon them, and that is all. Art critics have ever amused themselves theorizing on the birth, growth, and development of artistic periods. Climate, land, race, and history have been endlessly analyzed and combined. One thing and one thing only is certain—that wherever, in any community, there exists a desire to possess works of art, an appreciation of their merit, and means to procure them; there in some form or other art will flourish, be it among the quagmires of the Zuyder Zee, under the domination of Roman emperors, or amid the tyrannies and assassinations of Italian mediæval life. It is far better therefore, for us to study the productions of schools of art than to theorize among obscure and uncertain causes. My object is to impart knowledge. If knowledge be transmitted into your consciousness, there will be no lack of sentiment; and if sentiment be properly directed, there will be no lack of artistic activity. I shall trouble you very rarely with thoughts or observations of my own; but shall take the greatest liberty with the thoughts and observations of others. I have no desire to make the course entertaining to the merely careless listener, but trust it will be of assistance to the earnest student. For in the second place, my efforts will be entirely unavailing unless

accompanied by work on your part. The study of the Fine Arts demands earnest application, toil, patience, and perseverance. There are questions of ethnology, language and criticism, all of which are interesting; many of which are necessary to an understanding and appreciation of works of art. Time will not allow me to treat of many of them; many I can but point out to you and recommend to your private study.

Literature and the Fine Arts are so wedded, that without an acquaintance with the one, there can be no full appreciation of the other. You must, therefore, familiarize yourselves with the Greek poets—not necessarily in the original, however, for that would be a life's-labor. Translations, of course, cannot give the rhythm, and they mar the beauty and delicacy of the thoughts; but they cannot destroy the spirit, and that we must seize and make our own. Let Homer, Hesiod, Æschylus, and Sophocles, be your companions for the winter, and let Grote and Curtius be within reach.

The ability to read German is a prime necessity to every student of the fine arts. From the time of Winckelmann to the present day, the best of artistic criticism and history has been in that language. Most of the vexed questions connected with classic art have been solved by Germans, and they now carry the torch of investigating criticism far in advance of all other nations. German writers are often obscure, and sometimes more suggestive than comprehensible. Each author has his own words and peculiar expressions, which the license of the language allows him to multiply and use at pleasure. Many still indulge in the rhetorical fault of interminable sentences. You are told that they belong to the genius of the language, but there are common rules that apply to all languages, and their observance should be enforced by philologists.

Finally, let every student of the fine arts be a draughtsman. Ability to draw will not only be a source of great and even unceasing pleasure, but it will be of the greatest assistance in his studies. How numberless the objects that cannot be described but must be represented! A sketch of a picture or of a statue is far more suggestive than the most elaborate description. Above all is drawing valuable in assisting to the perception and retention of form and beauty. The act of sketching brings you into close and intimate union with the thing sketched. New beauties reveal themselves, details are estimated at their proper value, and there grows up within one a delightful sense of possession. Let no one say he cannot draw until repeated and well-directed efforts have satisfied him and his master that unkindly nature has sent him into the world deprived of a most ordinary faculty. Not one person in a thousand but has some power of distinguishing distance and dimensions. This and fingers are all that are necessary to start with. In very few is perception of form sufficiently accurate to beget a distinguished draughtsman, but in young

and old it can be cultivated into an inexhaustible source of pleasure and profit.

So let us start in earnest with hand, head, and heart, and I promise that you will soon be able to recognize and enjoy breezes from Parnassus.

PRIMARY SCHOOL EDUCATION.

"You would, then, if I understand you," said I, "have the children learn English, even in school, by reading good authors, and by writing down their thoughts the best way they could, without regard to rules?"

"Yes," said he, "under the guidance of teachers who, having been taught to think and feel themselves, know how to make the children think and feel. How do you write, yourself? Do you square your elbows and say, now I will illustrate my subject by a metaphor? or now I will be sublime according to the rules of the much-to-be-discommended Mr. Quackenbos? Do you keep that vast abortion, Mr. Gould Brown's 'Grammar of English Grammars,' constantly by your side, and search painfully through his 1,102 pages to see whether by chance you may not have violated one of his, say 40,000, rules? I think you do no such thing. You know well enough that the two conditions of good writing are, first, clear thinking, and second, the command of a copious vocabulary, gained through a loving familiarity with good authors. Now I would have that sort of training begin in the primary school, just as I would have the children's training in science begin there."

"Training in science begin in the primary school!" exclaimed I. "Is it not enough to begin rhetoric there? You surely would not bring in all those formidable ologies besides?"

"Indeed I would," said he; "zoölogy, ornithology, entomology, ichthyology, paleontology, and all the rest of them. They contain the very objects the Creator has provided as the stimulants of childish curiosity; and—what is not so often observed—they are the main and proper subjects on which to begin the exercise of the child's faculty of language. Which would you prefer as a school composition—a boy's description of his last shooting excursion, or a girl's faint reminiscence of last Sunday's sermon on the virtuousness of virtue? Are you going to be taken in by pedantic Greek names? What is entomology but catching and examining bugs? And can't a baby catch a bug, and wonder at its curious form and ways? And does not all science grow out of that very wonder? What is the youthful mind curious about—at least till we deaden it with our preposterous schools—but about these very marvels of creation which we do our best to spoil for him with our learned jargon and our grammar rules? Why, every village school should be an Agassiz museum in miniature, and the children should be continually writing learned memoirs upon its contents—learned to them, though not, perhaps, to the American Academy of Arts and Sciences."

"There is certainly something in what you say," said I; "and I suppose, as you would have natural history begun in the primary school, you would have physical, and, perhaps, chemical science begun there too: for there seems to be no limit to the number of studies you would introduce into this brave primary school of yours?"

"Indeed I would," said he, "and in one sense there is no limit, save the possible subjects of human knowledge. Children are even philosophers and metaphysicians in their own childish fashion, and ask questions sometimes which it puzzles their elders to answer. I would, therefore, include philosophy among my primary-school studies. And surely the unspoiled minds of children are of 'imagination all compact,' and a first and foremost primary study should be poetry. Our schools ought to be represented by a series of concentric circles, which should have the primary school for a center, and then the little human soul should take its first feeble steps in all directions out into the vast domains of knowledge, and no farther in one direction than into every other.—*"English in School," by William Atkinson, in Harper's Magazine for February.*

SIR WALTER SCOTT AT WORK.

A few years ago I strolled along the sea-shore at St. Andrews with Robert Chambers, and heard him speak of the days when he sat beside Walter Scott in this very room. I seemed to look into the great man's eyes and hear his happy voice, as I looked into the eyes and heard the the voice of one who learned from Scott what untiring industry joined to talent could accomplish. And it was with peculiar interest that I read in *Chambers's Journal* two years ago these words: "I know no brighter picture in the history of genius than this of Sir Walter Scott sitting down to his morning task dressed in the green velvet shooting-jacket of a Scotch laird, with his books and papers around him on the desk and on the floor, his favorite hound eyeing him from the rug, a couple of spaniels gamboling with his children in the garden, and the songs of the birds pouring in through his half-open window. Scott knew nothing of those feelings of irritation that make composition a torment to so many men. His study was always open to his children no less than to his greyhound. He never considered their tattle as any disturbance; they went and came as pleased their fancy. He was always ready to answer their questions; and when they, unconscious how he was engaged, entreated him to lay down his pen and tell them a story, he would take them on his knee, repeat a ballad or a legend, kiss them, and set them down again to their marbles or nine-pins, and resume his labor as if refreshed by the interruption."

Even when we remember that he had, by advice of his physician, ceased from

"lengthening the day
By stealing a few hours from the night,"

and learned that it is better to burn daylight from five to nine in the morning than lamplight from eleven to three at night, after Byron's fashion, it must remain a marvel how he could manage to accomplish so much in a house perpetually full of visitors, and a neighborhood where his every step was waylaid by lion-hunters. Anne Scott states that there were on one occasion thirteen ladies' maids in the house, and Lockhart mentions sixteen uninvited parties coming in one day. Cadell, one of Constable's partners, expressed to Scott his wonder that he could write at all. "I know," he said, "that you contrive to get a few hours in your own room, and that may do for the mere pen work; but when is it that you think?" "Oh," said Scott, "I lie simmering over things for an hour or so before I get up; and there's the time I am dressing, to overhaul my half-sleeping, half-waking *projet de chapire*; and when I get the paper before me it commonly runs off pretty easily. Besides, I often take a doze in the plantations; and while Tom marks out a dike or a drain as I have directed, one's fancy may be running its ain rigs in some other world."—*The Scott Centenary at Edinburgh*, by M. D. Conway, in *Harper's Magazine* for February.

ENGRAVING WITH THE SAND BLAST.

The most remarkable invention brought out within the past year is that by Mr. B. C. Tilghman of Philadelphia, for engraving on glass and stone. By means of a jet of quartz sand, blown through a pipe by steam at a pressure of 300 pounds to the square inch, he can cut a hole in a solid block of corundum—only inferior to the diamond in hardness—in a few minutes. The new process is now exciting great interest in Europe. An English journal thus speaks of it: "This American engineer just turns upon corundum a pipe which discharges sifted sand, mixed with a furious squirting of steam, and the fine shower of particles thus flung cuts a hole equal to the diameter of the jet. The same effect is produced in anything else submitted to the process. Here has the world been grinding, hammering, chiseling, and whirling drills for centuries, to make holes and channels in obdurate substances, when suddenly the friend of our youth, the squirt—in a new form, no doubt—comes to the rescue; and for the future we shall see the work done by this irresistible jet of dust, beating in ten million millions of fairy raps upon the object; thus effecting what is wished in a tenth of the previous time, and with exquisite precision. But the clever discoverer of this new agent has found that so great a force of steam is not necessary for finer work, such as grinding or engraving glass. One may employ a blast of air for this purpose by means of a rotary fan. The tube is fed with sifted sand, which the air-blast takes up and whirls against the glass. It will thus completely demolish a surface, moving past at the rate of five inches in a

minute, and the spent sand and glass-dust can be perpetually returned and reemployed. Moreover, by covering parts of the glass with a semi-elastic material, such as paper, lace, caoutchouc, or oil paint, designs of any sort may be engraved. The particles which eat off the hard glass or stone beat in vain upon the interposed medium, and so curious is this resistance that even a green fern leaf may be used, and the sand shower will consume all but the parts thus covered, leaving a delicate pattern of the frond. Again, in that kind of glass-work where a sheet of one color is superimposed upon another, the upper sheet may be partially protected by a paper stencil, while the parts left exposed are eaten or bitten away into the desired figures. The film of bichromatized gelatine, used for photographic negatives, may also be thus utilized for producing an engraving on glass or steel; and by a very simple arrangement the jet can be rendered movable, and be handled with an absolutely artistic freedom. So effectively, indeed, is this principle of minute myriad tapping upon any exposed surface, that small leaden shot, driven in the same manner, wear a hole in the hardest quartz rock. The exhibitor of the new agent showed a sheet of glass which had been perforated by a sand jet under a covering of wire gauze. The glass was turned as it were into delicate squares of blond lace, with meshes of one twelfth of an inch, and threads of one-sixteenth, a result unattainable by any other process." It may be added that the latest adaptation of this new invention is to a peculiar process of replacing the art of wood engraving. It consists in bringing upon a suitable matrix a photographic copy of the drawing or engraving to be reproduced. This is then passed beneath the sand-blast, and the cutting is thus obtained. The reverse engraving is then subjected to the electrotpe process, and any desired number of copies are produced.

DANGEROUS COSMETICS.

At a recent sitting of the Paris Academy of Medicine, Dr. Réveil read a paper on the necessity of preventing perfumers from selling poisonous or dangerous articles, which should be exclusively left to the responsibility of regular chemists, and not sold without a physician's prescription. "To show the danger there is in allowing the unchecked sale of certain compounds," he said, "I need but state that arsenic, the acid nitrate of mercury, tartar emetic, cantharides, colchicum, and potassa caustica, form part of their ingredients. The kind of soap called lettuce soap, which is sold with the announcement that it has been acknowledged by the Academy, does not contain the slightest trace of lettuce. This and other soaps are all colored green by the sesqui oxide of chromium, or of a rose color by the sulphide of mercury known as vermilion. Some which are cheaper contain 30 per cent. of insoluble matter, such as lime or plaster, while others

contain animal nitrogenous matter, which, having escaped the process of saponification, emits a bad smell when its solution is left exposed to the air. The various toilet vinegars are so far noxious, that, being applied to the skin still impregnated with soap and water, they give rise to a decomposition, in consequence of which the fatty acids of soaps, being insoluble in water, are not removed by washing, become rancid, and cause a chronic inflammation of the skin. The preparations employed for hair-dye under the pompous names of 'African Water,' 'Florida Water,' &c., all contain nitrate of silver, sulphur, oxide, and acetate of lead, sulphate of copper, and other noxious substances. All cosmetics for removing hairs or freckles are dangerous; the *lait antéphélique*, for instance, contains corrosive sublimate and oxide of lead. Were a chemist to deliver such a remedy to a customer without a regular prescription, he would be liable to a fine of 6,000f." Dr. Réveil concluded by expressing his regret that certain physicians should so far forget their own dignity as to lend the support of their names to such noxious inventions.

RUSKIN'S MANNERS.—Never shall I forget the first, last, and only time I ever saw John Ruskin. His picture had hung for many years just over my study table—that sweet, almost angelic face, which in somewhat coarser execution, still the same in character, fronts the title page of some of his works. Who that has seen it has forgotten it? It is almost a child's face, and has not a little of the charm which invests one of Raphael's Sistine cherubs. But the real Ruskin, how different! I think he is the plainest man I ever saw; at any rate, no face has ever impressed me with so much ugliness. And as if to intensify nature, his manner of wearing his hair and his rudely-fitting dress only emphasized the natural want of charms. Ruskin's face has neither fineness of feature nor winning expression. His eye, it is true, is large and eloquent, but not enough so to offset the rest of the face. He read a paper to a few friends that evening—not with much eloquence, but with a jerky, unnatural flinging out of the words, quite unlike the flow of a good American reader. But the charm was underneath, in the thought itself, which, like everything of Ruskin's, was original, paradoxical, stimulating. The paper was afterwards printed, and forms the first half of his "Sesame and Lilies." He is a good American-hater, lives in great seclusion on Denmark Hill, one of the suburbs of London, is princely in his generousities, gracious to all young art students who seek his advice, and, with all his feudal tendencies, incontestably one of the noblest spirits of our age.

A CURIOSITY OF LITERATURE.—One of the most curious of literary freaks is mentioned in that very interesting work, "The Life of Barham," author of "The Ingoldsby Legends." Barham conceived the notion of a novel which

was to be a joint-stock production, each part to be the work of some person who had lived or been intimately acquainted with the life he attempted to describe. Barham was to furnish the opening chapters, in which the birth and earliest days of the young heir were to be described. His intimate friend, Mr. Hughes, was to describe the boy's life at a public school. Barham's son was to carry him through a few terms at Oxford, and Lord William Lenox was to undertake his initiation into the life of a guardsman, an *habitué* of Crockford's gambling-house, and other scenes of fast and fashionable dissipation. However, the scheme, which proved very impracticable, fell through. The part of the work supplied by Mr. Hughes, descriptive of public-school life, was understood to be the work of his eldest son, "Tom." It was written with remarkable ability, and may be regarded as the germ of his celebrated story, "Tom Brown's School Days." The illustrations to the projected story were actually prepared by Leech, then only in the *premier jeunesse* of his career, but they exhibited unmistakable evidence of the talent destined to make him famous. Eventually the fragments were whipped into a story which appeared in *Bentley's Miscellany* under the name of "Stanley Thorn."

PHOTOGRAPHED NERVE SECTIONS.—Dr. Duchenne, of Bologne, has presented to the French Academy of Medicine an album containing copies of photographs of the appearances presented by sections of the great sympathetic nerve, the spinal ganglia, the spinal cord, and the medulla oblongata, greatly magnified. He fixed the photographs in stone by a process he terms photo-autography, the details of which, however, he does not communicate. It is satisfactory to find him stating that the results confirm the substantial accuracy of the beautiful drawings made by Dr. Lockhart Clarke on the central part of the nervous system, and especially upon the medulla oblongata. In his later experiments, Dr. Duchenne has adopted Dr. Clarke's method of preparation with chromic acid and carmine. He states that certain micrographic details come out with wonderful clearness in the photographs, and that by this means some important additions may be made to our knowledge. He has ascertained that in the white substance of the medulla oblongata, there are nerve tubules from thirty-three ten-thousandths of a millimeter to three-hundredths of a millimeter in diameter.—*Nature*.

SOLVENT FOR SILK.—Mr. John Spiller has found that hydrochloric acid is an energetic solvent of silk, although it has little or no effect on wool or cotton. Adulteration of silk fabrics can, therefore, be readily detected by dropping a little of the acid on a scrap of the fabric. If it be pure silk, a hole will be made; if impure, the threads which are left indicate the nature and the extent of the adulteration.

AN OLD INSCRIPTION.—A Buddhist inscription, of date A.D. 1345, has lately been discovered on the interior of an archway in the village of *Kenyung-Kwan*, in north China. Its chief interest consists in the fact that six languages are used in parallel vertical columns. These are (1) Sanskrit, (2) Thibetan, (3) Bashpah, (4) Ouigour, (5) Neuchik, (6) Chinese. Of the fifth of these, the Neuchik, which was the national writing of the Kin-Dynasty Tartars, all knowledge had been absolutely lost in China. The third and fourth were also largely unknown, and this inscription enables syllabaries and vocabularies of them to be formed.

The will of Mr. Rich was admitted for probate on January 29. It is dated Aug. 7, 1869, and appoints William Claflin of Boston, W. H. West of Dorchester, and John Goldsbury of Boston, executors and trustees, exempting them from giving bonds. After a number of bequests to relatives, among which is one of \$10,000 to President Cummings of Wesleyan University, and which amount with the annuities to \$26,000, the rest of the property is to go at the end of ten years, with all the accumulations thereon, to the Boston University, and be under its management and direction to promote and perpetuate piety and learning, and inasmuch as he hopes the Boston Theological Seminary will be merged in the Boston University, he directs his trustees within three years after his decease, in case the Boston University shall have become possessed of real and personal estate to the value of \$200,000, to pay to the trustees of said University the sum of \$10,000, in five years \$20,000, in seven years \$30,000. These partial payments are not to be made unless the University becomes possessed of \$200,000. In case the Boston University does not within ten years acquire property to the amount of \$200,000, or in case it abandons its charter before that time, one undivided half of the above-mentioned property shall revert to the Wesleyan University at Middletown, Conn., and from the other undivided half \$100,000 to the town of Wellfleet, the income of which is to be used for purposes of education; \$100,000 to the Wesleyan Academy at Wilbraham; \$25,000 to the Preachers' Aid Society of the New-England Conference; \$25,000 to the New-England Educational Society; \$25,000 to the Maine Wesleyan Academy at Readfield; \$25,000 to the East-Maine Academy at Bucksport; and the residue and remainder of all the property to the Wesleyan University at Middletown. The property under the will, is sworn at \$1,700,000.

Of the eighteen Japanese students who have recently arrived in this country, five are to go to London, two of whom will study ship-building, and three, various industrial arts; four to Paris to study civil engineering, architecture, and agriculture; five to Berlin to study military tactics; and four will remain in New York.

THE CONN. SCHOOL JOURNAL.

NEW HAVEN, FEBRUARY, 1872.

EDITORIAL.

We acknowledge with lively pleasure the commendations of this JOURNAL in its new form, which have been so freely and generously bestowed in the public press. It has been our earnest intention, for the sake both of the honored association which has entrusted this work to us, and of our readers, to put this magazine on the best possible footing. All these incoming evidences that this end is being attained are exceedingly grateful.

But in addition to the general excellence of this new form, and of its adaptability to a high order of success, there are some advantages attending our new arrangements deserving explanation. Under the liberal arrangements made by our publishers, and which are the best guarantee of the future success of this JOURNAL, we are enabled to use somewhat interchangeably between our columns and those of the *College Courant*, such contributions on the more general topics of educational concern as are of common interest to the two separate classes of readers reached by these publications. We are thus permitted to avail ourselves of a larger corps of excellent contributors, and to present to our readers much valuable matter additional to the kind and amount usually afforded in this JOURNAL, without any additional charge. We hope that the good intentions of our publishers and of ourselves in this respect will be neither misinterpreted nor unappreciated. There is another advantage in this arrangement, of considerable importance. This publication is designed mainly for the use, information and assistance of teachers; yet a good circulation among other members of our intelligent but not too well-informed communities, cannot fail to have a good effect. It will interest the public at large, more particularly in those poorly appreciated educators who are working in their midst. It will bring them also somewhat face to face with the problems of our active, surging humanity, which faithful teachers are laboring to solve. And as they read about the struggling cause, so they will be led to look in upon the schools and to lend the helping hand, which we so much need from citizens at large.

Work for teachers is not all to be done *with* teachers. Much work for them must be done with the general public, with which they must ever be intimately associated. If this association be not one of mutual sympathy and counsel, it must be one of more or less distrust or suspicion. Neither teachers nor schools will be the respected power which they should be in the land, until parents find it both their duty and pleasure to visit frequently the schools where their children are receiving education, to make acquaintance with their teachers and their methods, to sympathize with the labors of faith-

ful educators which they witness, and to encourage them in their successes. Certainly the parent and the teacher should ever walk arm-in-arm; the citizen and the school-master should be cordial friends.

In this view of what should be the teacher's social status, it will be our aim to win the attention of the public to the pages of this representative journal of the profession; not by diminishing in the least the amount of matter of more technical and professional interest, but by affording over and above this, that which will interest all. We intend by the proposed addition of what is of more general value and entertainment, to secure the attention of a wide circle of parents and other friends, and thereby to exert a more extended influence in behalf of the cause which we advocate.

The excellent system of public instruction adopted in this country does not reach any satisfactory point of completeness short of what is known as the high school. This is officially recognized in nearly all the New England states, by laws making it obligatory on towns containing more than four thousand inhabitants, to maintain schools for the study of various languages and the higher English branches.

No such compulsory law exists in Connecticut; yet the inhabitants of most of her larger towns and cities, moved simply by educational and economical considerations, have established such schools; we may say, without boasting, that these compare favorably with similar institutions in the other New England states.

But we are surprised to learn that there is one city in our state, containing a population of twelve thousand, which has no high school. We mean Meriden. This is the more remarkable since Meriden is one of the most active and enterprising of our lesser cities, and has, in other matters, an excellent educational record. She was the first of our Connecticut towns to abolish the odious rate-tax and to make her schools absolutely free; thus leading the van in this important "change of base." Yet she has, to this day, no high school for which her scholars can prepare, from which they can graduate, and of which they can be proud. For the want of one, some six or seven grammar schools, at a greatly increased expense to the town, have to be so graded as to admit of the teaching of languages and the higher English branches; this is done, however, under such disadvantages, that the citizens are often obliged to send their children from home to obtain a good high-school education. This is not right. The children of Meriden, rich and poor, ought to be educated together, and without going from home, should have just as good advantages as those of Hartford, New Haven, or Middletown.

To what this anomalous adjustment of the schools in our sister city may be due, we do not know; probably to some local cause of little importance to outsiders.

But whatever it is, we hope soon to be permitted to chronicle its removal, and to report that Meriden has brought herself as handsomely into line in this, as she has already done in kindred matters, by establishing a first-class high school.

Our views of what should be taught in public schools need to be thoroughly revised and improved. The irresistible progress of practical ideas is compelling such a revision, and the old fogysm of all our states combined may delay, but cannot stop it. The present selection of public-school studies is too scanty, arbitrary, scholastic, and conventional; it is too little natural, comprehensive, and practical. It must be confessed that the legions of teachers of this nineteenth century are following to an unpardonable extent, in their school-rooms, the models of education constructed in impractical, scholastic, medieval times; not the models required by this nature-loving and intensely practical age. It is true that the old systems have been clipped and twisted and embellished and enlarged to suit modern fashions of thought, and in many private schools have been all but smothered under a load of new themes. Probably in most cases their patriarchal originators would hardly recognize their own handiwork. In respect to the treatment of the studies and the methods of their instruction, a vast improvement has doubtless been effected; but the general plan of education, the selection of the few themes out of the many, and their relative proportion in the body of child-training, are mainly the same that satisfied a past and inferior age. The curriculum of our school-rooms is not worthy of these progressive days. That a greater variety of branches must be introduced, and will be at no very distant date, is evident. The whole tendency of the times is in this direction. We will not here expand this subject; we will content ourselves, at this time, with asking teachers to think for themselves immediately on this subject; and to think deeply, clearly, and with broad, liberal views of the whole situation. The staple objection of the danger of cramming pupils with too many studies, with all the sound truth which it carries, has yet held too bigoted a sway, and has too long succeeded in narrowing our school work. It is of great and worthy force as directed against simple multiplication of studies injudiciously or for the mere show of knowledge. It is simply a two-edged truth, as applied to a school whence the teacher sends forth the pupil furnished with a fine assortment of big words on dozens of grand themes; bristling with these like a porcupine with so many elegantly-pointed quills with which he can stab on every side those less fortunately gifted, but which unfit him for any useful task.

But this time-honored objection is justly found to fail as used against such a varied, natural, judicious range of studies as the fullness of true modern manhood re-

quires of early youth, in place of the limited course now generally adopted. There is a glorious advance in this direction already to be recorded. Already in some states, studies in natural sciences, the most congenial pursuits in which children can engage, are adopted in the most ordinary schools. It may calm the rising agitation of old fogysm to be assured that these are not taught as ornithology, ichthyology, paleontology and entomology; that the teachers do not philosophize learnedly of metamorphism, catalysis and isochronism. On the contrary, they talk in the simplest way, but all the while laying a most useful and solid ground-work of observation of the structure of wings, limbs, feelers, eyes, leaves, buds, roots, stones, flames, and a hundred other familiar, yet in respect to popular comprehension, unfamiliar things.

Leaving this most important subject for future discussion, we call the attention of our readers to the exceedingly apt and suggestive extract given in this number of the JOURNAL, from an article entitled "English in School," by William Atkinson, in *Harper's Magazine* for the present month.

ANNALS OF EDUCATION.

WOODSTOCK ACADEMY.

We do not wonder that this academy, "beautiful for situation," and distinguished for good work, as it is, has a strong hold upon the affections of our Windham-county friends. The institution has a history of which they may well be proud, and to-day this light on the hill seems to be burning with as bright a radiance as ever.

William E. Davidson, A.B., of the class of '71, Yale College, has recently taken charge of the school, and has already achieved a high degree of success in the management of it. At the close of last term, some very brilliant recitations in Latin and Greek were made by the pupils of Mr. Davidson, we understand, and it is thought that he gives promise of becoming a superior classical teacher. Students are fitted here for both the academical and scientific departments of Yale College. Miss E. R. Beach, recently of the Ladies' Seminary, Andover, Mass., is the assistant.

We are authorized to state that this institution is sure to have a new building during the coming year. Eleven thousand dollars are already subscribed for this purpose, and architects have been employed to make plans and estimates.

Henry C. Bowen, Esq., of the New York *Independent*, whose summer residence is in Woodstock, has been a most liberal patron of the school, his contribution towards the new building, if we mistake not, being five thousand dollars.

GLASTONBURY ACADEMY.

This young institution is achieving a most gratifying success, and those few enlightened friends of education who contributed so liberally for its foundation are reaping a rich reward in witnessing its present prosperity. The academy is a Glastonbury enterprise, and a most worthy one it is. Funds have been furnished sufficient to erect a comely and convenient building, and to equip the school well for its work. Established in the interest of sound learning, and already firmly grounded in the affections of the people most interested, this academy has a promising future before it. A charge is made for tuition, and the money thus received now pays the running expenses of the school. Eighty-five pupils are in attendance this winter, some fifteen or twenty of whom are from out of town. Several of these are fitting themselves to enter the Sheffield Scientific School at New Haven. Music, both instrumental and vocal, is taught, the school being furnished with a piano and a cabinet organ. Mr. Leonard T. Brown, a graduate of Yale College, is the principal of this school, and Miss Fannie Haskell, a graduate of South-Hadley seminary, is the assistant teacher. The music teacher is Miss L. Wilcox, of Portland, Conn. These teachers are able and accomplished, and their pupils are to be congratulated upon enjoying first-class advantages for acquiring an education.

THE SCHOOL CENSUS.

The report of the census takers of the number of school children between the ages of four and sixteen, in the town of New Haven, was read at a late meeting of the board of education. The total number of children in the New Haven city school district is 11,873; of which there are in public schools 7,732, in private schools 917, and not at school 3,224. Of the number not at school, there are 917 four years of age; 615, five years old; 251, six; 90, seven; 49, eight; 36, nine; 53, ten; 49, eleven; 92, twelve; 183, thirteen; 371, fourteen; 518, fifteen. Of this number, 1 each of eight and nine years are employed elsewhere than home; 5, ten years old; 3, eleven; 18, twelve; 73, thirteen; 143, fourteen; 207, fifteen. The increase of children by the union of the Fair-Haven district was 1,017; increase in the district since the union, 379. Total increase, 1,396.

WINDSOR.

A beautiful and commodious school-house has recently been erected in Windsor, large enough to accommodate eighty pupils. A bell from the foundry of Veazey & White, of East Hampton, Conn., and the gift of Gen. Pierson, of Windsor, has been placed in the belfry. This bell, we trust, will win many to the virtue of promptness, and at the same time remind them of their benefactor.

GREENVILLE.

The partial destruction by fire of the beautiful new school building at Greenville, is a serious loss to our friends of that place. The house was built in 1869, and cost about \$60,000. The loss is estimated at some \$30,000, and is very well covered by insurance. The walls of the building are all standing, and are thought not to be injured to any great extent. We deplore this calamity, but believe that it will not have power greatly to dishearten such staunch friends of education as those of Greenville.

MAPLE-WOOD MUSIC SEMINARY.

Prof. Dwight S. Babcock has established a seminary at East Haddam, for instruction in vocal and instrumental music. The location is delightful and healthy, being on the bank of the Connecticut river and commanding a view of rare beauty. Prof. Babcock has gained an excellent reputation, and has pupils from 12 or 15 different states. Having frequently visited his seminary, we most cordially commend it to those wishing to acquire thorough instruction in music.

PLAINVILLE.

The citizens of this place being unable to agree as to the location of their new school-house, referred the subject to the school visitors of New Britain, who readily united in the selection of a site. We hope soon to see a well built house erected on the favored spot. The sum of \$10,000 has been appropriated for the building.

BERLIN.

The lower part of the old church has recently been finished and furnished for a school of two grades. There are two pleasant rooms with sufficient accommodations for one hundred pupils. A flourishing school is now in progress under the charge of Mr. Graves, of Wesleyan University.

A Teachers' Institute is to be held at Birmingham, to commence on Thursday evening, March 7, and to close on the 9th. Governor Jewell has promised to be present. Secretary Northrop will of course be there, fresh from his European experiences. An interesting and profitable series of exercises may be expected.

The enumeration of school children in the town of Hartford for the year is 9,120; last year there were 8,258 children between the ages of four and sixteen years—an increase of 870.

RHODE-ISLAND INSTITUTE OF INSTRUCTION.

This gathering of teachers in a three days' session at Roger Williams Hall, Providence, R. I., has been an occasion of much interest. The institute was opened on Thursday, January 18, by its president, Mr. A. J. Manchester, of Providence. The first day was devoted, as usual, to the visiting of public schools. The normal and high schools were open to visitors from 10 A.M. to 1 P.M.; the grammar, intermediate, and primary, from 2 to 4 P.M. The normal school naturally attracted the most visitors. There were about a hundred pupils in attendance. Recitations were held in arithmetic, geometry, mineralogy, and spelling. Each exercise was followed by vocal music. The exercises in mineralogy were conducted by Professor Greenough, the remainder by the lady teachers, with success, and much to the entertainment of the audience. In the evening, there was a social gathering of the teachers at the hall, enlivened by music rendered by Miss Stackpole, a celebrated Providence vocalist, and by the Brown-University glee club; also, by recitations by Mrs. Miller, of Concord, N. H., teacher of elocution in the R. I. Normal School.

The second day's proceedings were opened at nine o'clock A.M., by reading of Scripture and prayer by Rev. Dr. S. L. Caldwell, of Providence. After a few words of welcome by the president, the various committees were appointed. A paper was read by Mr. A. D. Small, superintendent of public schools, Newport, on practical education. He considered that the three chief elements of a practical education are the cultivation of a taste for reading good books, such a course of physiological study as will teach one to maintain good health, and such "soul-training" as may constitute "religion in its larger sense, entirely independent of sectarian creeds." A discussion of this paper followed, after which Mr. D. W. Hoyt read a carefully-prepared document on "The Cultivation of the Memory." In the course of this essay, much stress was justly laid on the importance of cultivating, not so much the remembrance of certain things with reference to repetition at a stated time, but *retentiveness* by which facts can be at any time called up. With a view to this, he advised a teacher to call frequently at unexpected times for facts previously taught. The lecturer thought that there is danger of using too much the reasoning powers, where the memory should be employed instead.

The points presented were subsequently discussed by several members of the institute, after which the morning session closed by an interesting exercise in vocal music by the pupils of the Elm-street Grammar School, under the direction of B. W. Hood, Esq., of Providence.

The afternoon session was then opened with a class exercise in reading by pupils of the State Normal School, conducted by their teacher in that department, Mrs. H. M. Miller. Prof. J. C. Greenough, principal of the State Normal School, was then introduced, and presented

a paper entitled, "A Course of Study." He set forth education as seeking the development of a pupil's powers, and not consisting solely in preparation for some specific employment; he declared every human being created for ends higher and nobler than the crafts of any trade, which view must be kept prominent in school work. He also urged upon teachers the study of the operations of the mind in different stages of development. He advocated accurate study of scientific facts in public schools; yet not so much as facts, as stepping stones to principles. He advised the furnishing of schools not only with blackboards and crayons, but also with mineral, botanical, and zoological specimens. In this connection he predicted that the time is not far distant when it will be considered as important that a school-room be furnished with means for teaching the elements of scientific studies, as with chairs and benches. Language lessons and bodily training were also made the themes of some sensible remarks. This exercise was followed, after a brief recess, by a complicated gymnastic performance by eighteen girls from the Thayer-street Grammar School, in which excellent skill and accuracy were displayed.

The concluding paper was read by Joshua Bates, Esq., head master of the Brimmer school, Boston, Mass., on "Manners and Morals of the School-room." After impressing upon his audience the paramount importance of a thorough and effective moral training, to supplement the physical and intellectual discipline, he stated that in his school he divided his lecturing on this subject as follows: first, home duties and deportment; second street duties and deportment; third, school duties and deportment. He also teaches his pupils to observe and follow the order of nature; to practice the four cardinal virtues, prudence, justice, temperance, fortitude. He urged it upon instructors to aim to make their pupils noble, generous, and upright; to seek to impart true manhood, rather than to produce an accumulation of learning in the student's mind.

In the evening an assembly was held at Music Hall; addresses were made to a full audience by Mr. A. J. Manchester, president of the association; Governor Padelford, Mayor Doyle, Hon. T. W. Bicknell, State Commissioner of Public Schools; Rev. Daniel Leech, Superintendent of Public Schools; Hon. Wm. P. Sheffield, of Newport; and D. B. Hagar, Esq., principal of the state normal school at Salem, Mass. These speeches were well put and well received, and were interspersed with music in pleasing variety. Mr. Frank F. Tingley performed some excellent solos on the organ, and the ladies of the high school, under the direction of Mr. B. W. Hood, acquitted themselves well in some vocal pieces. In the course of the evening, Prof. Monroe, of Boston, gave some readings which afforded general satisfaction, and added much to the enjoyment of the occasion.

On the morning of the third day, the devotional exercises were held by Rev. C. G. Currie, of Providence. The election of officers and appointments of standing committees followed. Mr. Merrick Lyon was elected president of the association for the ensuing year. Various other items of business were taken up, after which Prof. Monroe gave an exceedingly interesting and comprehensive lesson in elocution to the pupils of the normal school. His particular subject was the manner in which to proceed with beginners in speaking and reading.

The prospects and condition of the "R. I. School-master" were then discussed, and the following committee were appointed to aid in its publication: Messrs. Mowry, Russell, and Kyle, and Misses Bankroft and Doyle. An appropriate resolution was then passed in reference to the recent death of Mr. A. A. Gamwell.

Mr. Manchester, after a few happy remarks, introduced the incoming president, Mr. Merrick Lyon, and with a vote of thanks to their retiring president, the society then adjourned.

SCIENCE INSTRUCTION TO TEACHERS.

Last year several courses of lectures upon scientific subjects were delivered before the teachers of Boston, at the hall of the Boston Society of Natural History, the funds necessary to defray the expenses being given by Mr. John Cummings. The success of this attempt to popularize science has induced Mr. John A. Lowell, the trustee of the Lowell-Institute fund, to furnish the means for its repetition. The lectures are to be given in the same hall, the price of admission being only nominal. We take from the *Naturalist* the following programme of the lectures for the present season:—

First Course, twelve lectures, beginning October 23, on Popular Geology, by W. T. Brigham, A.M. Subjects—Water as a Geological Agent; Chemical and Physical Properties of Water; Dew and Rains; Springs; Rivers; Waterfalls; Bays and Marshes; Lacustrine and Oceanic Deposits; The Ocean; Caverns; Snow and Ice; Glaciers; Deluges.

Second Course, beginning December 4, six lectures by B. Joy Jeffries, M.D. Subject—Comparative Anatomy of the Eye and Vision.

Third Course, beginning December 26, ten lectures by Professor G. L. Goodale, of Bowdoin College. Subject—Physiological Botany, a study of some of the Relations of Plants to Heat, Light, Electricity, and Chemistry.

Fourth Course, beginning January 29, six lectures by Thomas Dwight, jr., M.D. Subject—Preservation of Life among the Vertebrates.

Fifth Course, beginning February 19, six lectures by W. G. Farlow, M.D. Subject—Cryptogamic Botany with special reference to the Algæ.

Sixth Course, beginning March 11, by F. G. Sanborn. Subject—Talks about Insects.

We have received two reports, which are interesting, as showing officially the condition and progress of education in two of the reconstructed states. These are, the "Report of Hon. Joseph Hodgson, Superintendent of Public Instruction of the State of Alabama, for the scholastic year from Jan 1, 1871, to Sept. 30, 1871;" and the "First Annual Report of the School Commissioner of the State of Georgia, Hon. John G. Lewis, for 1871."

Both of these reports abound in evidences of the confusion existing in educational as well as other state interests, by reason of the yet unsettled political and social condition of these states. They also give us a glimpse of the disheartening odds against which our fellow teachers of the south are contending. When we reflect upon the discouragements which we in the north find so heavy, even in these stable, flourishing states of New England, in contending against ignorance, penuriousness, and partisan hostility, we cannot but yield our heartiest sympathy to these our southern co-educators, who have all these to fight against in more aggravating forms, unsupported by any such stable state governments or such well-adjusted laws as we enjoy. The reports of these state superintendents mark them as men of earnest devotion to the great work, longing to do more than they can under the glaring imperfections of their laws. Teachers, in such more favored states as our own, would doubtless return to their labors with far more courage and far less desire to complain, after reading carefully these two reports.

On account of a recent enactment of the Alabama legislature, requiring the scholastic year hereafter to correspond, not, as previously, with the calendar, but with the fiscal year, the present report covers but nine months of school work.

The public schools in Alabama are not supported to any extent by local taxation, but by state appropriation. For the year 1871-2 the amount of this appropriation is \$604,978 for a population of 996,992. Comparing this amount and the results of this system with the amounts of state appropriation elsewhere as proportioned to population, the superintendent wisely suggests that the state is attempting too much and localities too little. A wiser distribution of the expenses is exhibited, for instance, by the state of Pennsylvania, which, for a population of \$3,521,791, raises by state appropriation but \$500,000, by local taxation \$7,200,000; or by New York, raising, for a population of 4,382,759, \$881,000 state funds, and \$8,241,253, local taxation. From an unwarrantable deficiency of \$277,911 in the estimate of the state auditor for the school year, and some other causes, a very serious check was put upon all public schools, diminishing much the desired success. Imperfections in the existing laws in regard to the disbursing of school funds, and the recklessness of former school officials, have added to the confusion.

Notwithstanding all this, the report shows a cheering

progress, and looks hopefully to far greater results before long. The total number of pupils enrolled during the year is 141,312. The total average attendance, 107,666. The total increase in attendance since last year is 55,660.

Upon this showing, the superintendent takes exception to the statement made in the last report of the Commissioner of Education at Washington, to the effect that public instruction in Alabama has retrograded since last year, which statement he justly pronounces, if his figures are correct, to be entirely gratuitous and unfounded.

The report of Mr. Lewis, for the state of Georgia, sets forth very clearly a series of difficulties, legal and practical, sufficient to block the path of the most enterprising educators in the world. The state enactments, in point of practical efficiency, seem to have fallen far below the already low par of similar performances by other legislatures. The official organization into school districts was so crudely done that it has led to interminable confusion. "Not one citizen in ten can tell how many districts there are in his county or where they are situated." And as for the sage-provisions for the financial requirements, the condition is worse yet. Under the certainty of the inadequacy of the regular public school funds, amounting as far as we can make it out from the report, to a little over \$400,000 for the year, the enactment authorizing the county boards to levy taxes for school purposes is so ambiguous and unsatisfactory that it cannot be used for the support of the schools. In the words of the report, under this law "a tax could be imposed to procure a water bucket or a broom, but not for the employment of a teacher!" The total number of pupils in the public schools of Georgia for the year was 49,578.

Although Japan was somewhat behind China in admitting foreigners to her shores, it is not at all certain that she will not surpass her in acquiring the civilization of the western nations. The recent news from the former country in reference to education is exceedingly gratifying. The minister of education, we are told, is attempting a thorough remodeling of the Yeddo college, dismissing all the native teachers and reducing the number of students from 1,100 to about 500, who are to be admitted or readmitted as the case may be on examination, after the manner of colleges in this country, as to their attainments and ability to learn. Still further, foreign instructors only are hereafter to be employed, and, in short, the design seems to be to render the institution a college or university in the sense in which those words are understood in this country and Europe. But more than this, the desire for instruction in foreign languages and science is represented as being very great, and there are now in different parts of the empire no less than nine schools for this purpose which receive the sanction and support of the government. A fact no

less encouraging is the desire for female education, which is manifesting itself in various places. One school, exclusively for girls, which was opened last September, has now 17 pupils, and a wealthy native merchant has offered to erect a school-house to which girls shall be admitted as well as boys. But perhaps the strongest indication of the disposition of the Japanese to acquire our civilization is the recent arrival at San Francisco of a Japanese embassy, accompanied by six princesses, five of whom, it is affirmed, are to be educated at Vassar College, and that, too, in accordance with a late edict of the Mikado, at the expense of the Japanese government. This, with the project recently discussed in Congress of admitting Japanese to West Point, and the rumored influx of Japanese students to our colleges, shows how thoroughly in earnest these people are, and at the same time how fully they appreciate the importance of education.

BOOK NOTICES.

THE EARTH.*—Mr. Elisée Reclus, the author of this well printed and splendidly-illustrated volume, is a prominent French savant. He has spent, as the publisher informs us, fifteen years in careful study, travel, and research, in the production of this great work, and as he combines in a rare degree French lucidity of style with sound learning, he has given us by far the best treatise on physical geography now extant in either the French or the English languages. In four parts, which comprise eighty-six chapters, Mr. Reclus describes and elaborately discusses the history and the phenomena of the globe.

The first part treats of the earth as a planet, of its form, dimensions, and movements, and gives a brief resumé of the various theories regarding its formation. The author does not unreservedly accept the hypothesis of LaPlace, according to which the earth was at first a gaseous globe, which assumed its present form after long ages of cooling and contracting. Nor is he less cautious in assuming an igneous fluid interior, on the thin firm crust of which we live; but rather accepts the views of Lyell and other modern geologists.

The second part, the "*Land*," is in many respects the most interesting of the volume. We find in it a broad statement of those contrasts and analogies between the continents, which were first pointed out by Bacon, Forster, Ritter, and others. The author assumes three couples of peninsulas—North and South America; Europe and Af-

rica; Asia and Australia. He chooses America as the type, because its line of upheaval forms a tangent to the curve of shores which bound the Pacific Ocean. It is composed of two triangles, each pointing its apex toward the south, and linked together by a narrow isthmus. These two halves of America form two distinct continents, and yet they show so great a similarity of structure that they are evidently the counterparts of one another.

In the old world, Africa clearly follows the model of South America. Both are alike in their triangular mass, with coasts slightly indented. Europe resembles North America in the great number of its peninsulas and indentations. The author infers from the similarity of the flora and fauna of northern Africa and southern Europe, that both continents were formerly connected by an isthmus in the same way as the two America's are connected at present. He says the ancients were not ignorant that the entrance to the Mediterranean had once been closed, since they attributed to Hercules the honor of having opened the gate between the two seas. But this myth can hardly be adduced in support of the hypothesis. It is at best the cosmogonic legend of a youthful nation, certainly not a proof that its inventor was an eye-witness of the geological prowess.

Asia and Australia constitute the third pair of continents, but their form very imperfectly reproduces the American type; and although they are not directly united by a continuous isthmus, yet the Sunda Islands, like "piles of a broken bridge," stretch across the sea between the two continents. As regards Australia, both by its regular form and the entire absence of peninsulas, it evidently reminds us of the two other parts of the world, (South America and Africa), which push their way far into the Southern Ocean.

The following passage is a good example of Mr. R.'s graphic style:

"The principal feature in the relief of the Old World is the enormous elevation of the land near the center of Asia, at the intersection of the lofty chains of the Hindoo Kush, in that region of grandeur, to which the name of 'the roof of the world' has been justly given. This elevated spot, round which radiate the Himalaya, the Karakorum, the Kuen-Lun, the Thian Shan, the Soliman Dag, and other chains of mountains, is, in fact, the point of the earth at which the two continental axes cross one another, one tending from the north to the south, the other from the northwest to the northeast, parallel to the outline of the Pacific. At this meeting point, the two terrestrial waves overlap one another, just as two billows coming together in the open sea from two different points of the horizon. There at the intervention of the axes, stands the real apex of the earth, the orographical center of the continents; there, too, we find, was the center of dispersion of the Aryan nations. By a remarkable contrast, at the exact antipodes of this region of elevated plains and lofty mountains, we find those broad tracts of the Pacific, which are most destitute of inlands; and there, too, are probably situated the deepest profundities of the ocean."

The contrast between South America and Africa is traced thus:

* *The Earth*, a Descriptive History of the Phenomena of the Life of the Globe, by Elisée Reclus; translated by B. B. Woodward, M.A. Illustrated by two hundred and thirty maps inserted in the text and twenty-three page-maps, printed in colors. New York, Harper & Bros. 1871.

"Several geographers, including Humboldt himself, have thought that Africa and South America had their corresponding coasts set in the same direction. But this is not the case; these two divisions present the same mutual contrast as the two hands of a man. There is symmetry, but not equality. In fact the highest plateaus and the loftiest mountains in Africa rise at the east side of this continent, while the chain of the Andes commands the western shores of South America. The most important African rivers—the Orange, the Congo, the Niger, and even the Nile—empty their waters into the Atlantic, into which are also discharged the immense rivers of the Columbian continent, the La Plata, the Amazon, the Orinoco and the Magdalena. In the same way the Saharan deserts, which tend toward the Atlantic Ocean, answer to the *llanos* of Venezuela and the *pampas* of the La Plata; the latter being likewise inclined toward the same oceanic basin. Finally, the two isthmuses of Suez and Panama, each at the angle of their respective continents, occupy a corresponding though opposite position.

The "*Subterranean Forces*" occupy the fourth and last part of the volume. The author holds, that the time, when a satisfactory theory can be given of volcanoes and earthquakes, has not yet arrived. "If," says he, "some day, we are to succeed in pointing out exactly how volcanoes obey the same laws which govern the exterior of the globe, the first requisite is to observe with the greatest care all the incidents of volcanic origin. When all the premonitory signs and all the products of eruptions shall have been perfectly ascertained, then science will be on the point of penetrating into the secrets of the subterranean abysses where these marvelous convulsions are being prepared." This absence of a general hypothesis—for which the reader will rather thank than blame the author—is amply counterbalanced by a very full array of facts and very graphic descriptions of the great earthquakes and eruptions which have taken place within historic times.

We heartily recommend the book as one that is accurate and scientific, and, at the same time, popular in the best sense of the term. It treats of a branch of knowledge which has thus far been sadly neglected in our country. A knowledge of our earth is by no means a common acquisition even among our better-educated classes. And yet, next to the branches of a so-called common English education, there is none as indispensable to persons who lay any claim to culture as this "*General Geography*." Without it, history and even the rise and development of our own country must in a measure remain incomprehensible. A man may be very learned in various fields, and yet without some knowledge of the globe which we inhabit, he will entertain many erroneous views, little better than vulgar superstitions.

The third part of the book treats of the "*Circulation of Water*," including glaciers and avalanches, springs, rivers, and lakes. The reader will find nearly all the theories with which geologists have endeavored to explain their phenomena; and, in addition, many new ones, which are original with Mr. Reclus. Some of these, however, cannot be adopted without reserve. Thus, when the author ascribes the origin of the two

forms of river outlets—estuaries and deltas—to the influence of the tides, he is hardly borne out by the facts. The ebb tide, it is said, continuously carries out into the sea the silt of the river, and thus gives its mouth the form of a gulf-like estuary. But the inflowing flood necessarily counterbalances the outflowing ebb, and should take back into the river what the latter has taken out. If Mr. Reclus's explanation were correct, we should find that rivers emptying into seas with strong tides had estuaries, and rivers emptying into seas without tides, deltas. But the Indus and the Ganges have built up enormous deltas, although the tides acting on their outlets are very strong. In the La Plata the tides do not act because there the crests and valleys of two different flood waves neutralize each other; yet it has an immense estuary measuring over 150 miles in width; while the Orinoco, with powerful tides, has an extensive delta.

It will be seen that Reclus and Humboldt arrive at different conclusions. Humboldt, in pointing out the analogy between the two continents, considered only their horizontal forms; Reclus, in showing the contrast, took notice only of the vertical development. But who will decide which is the right view and which the wrong? Questions of this nature will always remain open.

The chapters on mountains, valleys, and passes, are replete with interest, and, with their many graphic descriptions, cannot fail to impress even a superficial reader. They are illustrated by a lithographic map of the Alps and some remarkably well-executed topographical sketches, cut in wood. Of the Alps the author says that they appear to be a dreadful accumulation of disorder, and only a long course of study or personal survey will enable any one to become acquainted with the general arrangement of their ridges. It may then be seen that the ensemble of these mountains is formed by separate groups, throwing out branches in every direction, like the rays of a star. Whilst the Jura, the Appalachians, and the mountain systems belonging to the same type, are composed of parallel chains, the Alps are formed by the juxtaposition of many groups with divergent chains radiating from them. The Swiss geologist, Desor, takes as the basis of his classifications the various nuclei of granite and protogene which have pierced through the more recent rocks, and divide the Alps into fifty distinct groups. But this number must be considerably reduced, if those which are linked to one another by continuous ridges of great elevation are looked upon as forming parts of the same chain.

Mr. Reclus's work supplants those older treatises on physical geography, of Herschel, Mrs. Somerville, Ansted, and others, which are chiefly remarkable as collections of dry details. In comprehensive generalizations it is equaled, if not surpassed, by but one performance in the English language—the first chapter of Prof. J. D. Dana's *Manual of Geology*. But this masterly essay of 37 pages presupposes a considerable

amount of geographical information, while Mr. Reclus's "Earth" may be read with profit and pleasure by persons of ordinary intelligence.

The translator, B. B. Woodward, has done his task well on the whole, though here and there we meet with a sentence which might advantageously have been deprived of its French redundancy. Nor has he been very careful in the spelling of foreign names. Thus "Kouen-Lun," instead of *Kuen-Lun*; "Herzogovina," instead of *Herzegovina*; "Thian-Chan," instead of *Thian-Shan*; "Hindoo-Kuch," instead of *Hindoo Kush*, are not simple misprints.

The 24 full-page maps, with the mountains in brown, and the waters in blue, add very materially to the value of the book. These, as well as the 230 small sketches, have obviously been designed by a skillful topographer. The delineation of mountains and other inequalities of surface is such as we do not see in the miserable daubs of Colton, Mitchell, and Johnson.

THE TEACHER'S ASSISTANT; OR, HINTS AND METHODS IN SCHOOL DISCIPLINE AND INSTRUCTION.*—There are no instructors so thoroughly gifted with an all-comprehensive genius for every department of a teacher's occupation, or with a complete assortment of instructive perceptions of the right kind, that they can afford to carry on their work in utter independence of the ideas or experiences of others. Those who feel most sure that they can be their own pilots through all the sinuosities of a teacher's intricate course, are probably in the most danger of being wrecked on some hidden reef of the school-room, for want of a little friendly suggestion.

We should therefore welcome whatever thoughts on school-room work come to us from educators of such earnest and comprehensive mind as to be entitled to our respect. Mr. Northend's educational treatises are well known to the public as those of one who has observed much, and who writes in thorough earnestness and love for the work. The "Teacher's Assistant," which now reappears in an improved shape, has had for many years a copious sale, which sufficiently proves its acceptance in professional circles. Its language is exceedingly simple and instructive, while an abundance of illustrations gives it an attraction to the dullest mind. Every topic is discussed in a common-sense way, to the avoidance of all profitless theorizing. Those unacquainted with the book will be surprised to find how many suggestions it contains in respect to the practical details and minutiae of daily work. It is in no sense a book of "glittering generalities," but keeps on the plane of actual service. It is so comprehensive in the topics treated, that teachers who are in general successful, yet are conscious of failing in one or two points, will be

* *The Teacher's Assistant; or, Hints and Methods in School Discipline and Instruction.* By Charles Northend, A.M. Published by A. S. Barnes & Co., New York city.

very likely to find some useful hints on those very points in this treatise. Let it have a place, teachers, in your libraries.

THE HOOSIER SCHOOLMASTER.*—This novel, which first appeared as a serial in *Hearth and Home*, is a story descriptive of western border life, the scene being laid in Hoopole county, Indiana. It is not so much an effort on the part of the author to write a regular orthodox novel, as to represent the manners and customs prevailing in certain of the uncultivated backwoods settlements of the west, a little love and religion being thrown in, apparently, to render the work attractive to both the serious and the gay. In spite of the love story, which is rather of the raggedest, the work as a whole is exceedingly entertaining, and is especially rich in western peculiarities of dialect. We think it a decided mistake in the author not to have carried out his original intention of "appending some remarks, philological and otherwise, upon the dialect," and if Professor Lowell's most entertaining and instructive, but by no means exhaustive essay upon Americanisms, in his preface to the Biglow Papers, is going to deter all the writers from contributing what they know, even though it be little, to that subject, it would have been far better in our opinion had the preface never been written at all, sorry as we should be to lose it. The work is adorned with twenty-nine illustrations, some of them very good; but we are bound to add, that if the picture of Hannah, opposite page 56, is a fair representation of the heroine, we can fully sympathize with Bud's remark to the schoolmaster, found in a subsequent page, "She's a mighty nice gal, but you're welcome to her." The book will be found pleasant reading by everybody, and to those who are at all interested in the subject of Americanisms it will convey not only amusement but information.

* *The Hoosier Schoolmaster.* A Novel. By Edward Eggleston. Orange Judd and Company.

AMERICAN ENTERPRISE.*—Looking upon this marvelous specimen of the tasteful activity of this age, we are convinced that advertising has become one of the fine arts. In some of the myriad forms which the fertile Yankee brain gives to it, it is gross enough. Such is the case with those appeals to the eye, daubed in hideous proportions over some of the choicest features of our landscape. Besides reeking with vulgarity, by their very impudence such advertisings repel every right-minded man, and overshoot their own mark. These cruder forms of traps to catch our notice meet us in great variety, in all shades of coarse self-assertion, down to the mild but unpleasant one of thrusting handbills at the passer-by. It is pleasant to know that those who are authorities on this subject assure us that such gross forms of solicitation are not really sufficiently remuner-

* *American Enterprise*: Illustrated by W. J. Linton. Published by Lee & Shepard, Boston and New York.

ative to be long carried out ; this evil, therefore, may be trusted to destroy itself.

But there are other forms of advertising in which the ingenuity of man has wrought with subtle artistic charm. Of such work, "American Enterprise" is an eminent specimen. With the acknowledged purport of going forth on an advertising errand, it embellishes its pages with such choice engravings, the product of the highest skill, that it is everywhere welcomed and admired. Printed on heavy-toned paper in exquisite style, and bearing on its large folio pages such reproductions of artistic work as are worthy of hanging framed upon our walls, it is a treat to be enjoyed by all who can get hold of it.

CROSBY'S GREEK GRAMMARS.*—It is more than a quarter of a century since this great work of one of the noblest classic scholars of our country made its appearance. It took hold at once of the respect of the public, and we may even say of its affections, and has held them ever since. We say affections, for it is a fact that almost all true scholars who have used this book have become attached to it so strongly that it has been hard to win their allegiance to any other text-book of Greek grammar, however learned or excellent.

During these long years of usefulness, however, the book has not remained as if becoming fossilized. It has kept up spiritedly with the march of modern thought and modern research. To-day we have it before us, with all its excellencies as of old, in their freshest and most attractive forms—for it has now two forms: the one the more complete in detail, yet not too much overburdened with this, as some grammars are, to be useful as a handbook to the American scholar; the other a "Compendious Grammar," shorn of some of the less-essential details and brought into narrower compass, yet complete and satisfactory.

The clearness of statement and excellence of method shown in this book are no more perhaps than could be expected from one who was for years the principal of the State Normal School at Salem, Mass. The qualities which enabled the author to fill honorably that responsible position manifest themselves plainly in the disposition of subjects in his grammar. We most heartily recommend it to all who are classically inclined.

* *A Grammar of the Greek Language*, for the use of Schools and Colleges. By Prof. Alpheus Crosby. Revised Edition; also, *A Compendious Grammar of the Greek Language*. By the same author. Published by Woolworth, Ainsworth & Co. New York and Chicago.

YALE NAUGHT-ICAL ALMANAC.—"The Yale Naught-ical Almanac" seems to need naught of us more than the announcement of the title page, and the assurance to our readers that the comical naughtiness, both pictorial and letter-press, on every page, fully matches the burlesque imprint, which, given entire, is as follows: "The Yale

Naught-ical Almanac for 1872; a modestly-economical rejuvenescence of some very ancient chronicles, unblushingly appropriated. Published under the auspices of the Yale Tract Association, and printed and sold for the association by parties called Chatfield & Co., New Haven, Conn." Knowing readers will undoubtedly find the salt that savors this wonderful annual more "attic" than that of the briny deep.

PINNEO'S GUIDE TO COMPOSITION.*—This consists of a series of practical lessons, designed to simplify the art of writing composition. Its chief design seems to be to make this difficult art simple and interesting as far as it may be, to draw up on this plan a concise but comprehensive course, and yet to adapt it to be commenced at an early age.

Many other attempts have been made in this same line, with only a moderate success at the best. The present effort appears to be an advance upon previous ones in that it is founded on the better comprehension that is now beginning to prevail among teachers as to what language lessons should be. Without undertaking to decide as to the *best* method, we may safely pronounce this a very excellent one, aptly arranged, sufficiently progressive, and quite comprehensive in its simple instructions. Its main plan consists in carrying on the several main points of correct composition in parallel lines of progressive instruction. Thus the difficult art of punctuation is taught in gradual installments from the very first to the closing exercises. Whether this is preferable to giving it in a few concise sections, in close connection, is decidedly an open question; the plan here adopted would meet the approval of many, and is well carried out.

* *Pinneo's Guide to Composition*. By T. S. Pinneo, M.A., M.D. Published by Wilson, Hinkle & Co., Cincinnati and New York.

HISTORICALS FOR THE YOUNG FOLKS.*—The object of this little work, which is very pleasantly carried out, is somewhat peculiar. In our common-school histories, certain leading characters and events are simply touched upon in the most general and unsatisfactory way. This is one of the necessities in the preparation of a condensed and available school history. On the other hand, the larger works, the complete biographies, by master hands, of historical characters, or the fuller expansions of notable events, are too voluminous and expensive to reach the masses. The author of this work has selected from the history of the United States such characters as Capt. John Smith and his inseparable satellite in history, Pocahontas, Sir William Phipps, Ethan Allen, Major Andre, and others, and such themes as the Salem Witchcraft, Indian Customs, The Heights of Abraham; these she has developed in short, plain, and interesting narratives, occupying a middle ground between the concessions of school histories and the expensive fullness of the complete works of our

eminent historians. The quaint embellishments, reproductions of old originals, add much to the attractiveness of the book. It is got up in an inexpensive form, and therefore, with its store of needed information, is easily attainable by both teachers and scholars in all our schools.

Historicals for the Young Folks. By Oro Noque. Published by Charles C. Chatfield & Co., New Haven, Conn.

READING LESSONS IN STENO-PHONOGRAPHY.*—This is a very convenient manual of about fifty pages, composed by an experienced teacher in phonography. It adopts Munson's system, which claims to be an improvement upon the old and well-honored systems of Longley, Pitman & Graham. The merits of the new system are its greater simplicity and harmony.

This treatise is intended to be a more concise work than Munson's *Complete Phonographer*; it presents reading matter of a simpler character both as to ideas and phonographic representation.

We are very favorably impressed with its appearance, and the very simple lessons in which the groundwork of this valuable system is presented. The book is prepared with a special reference to use in public-school instruction. Whether it is so used or not, it has a special value to teachers. Every man and woman ought to be varied in resources. For a small outlay of time, patience, and expense, teachers can add to their acquirements a fair facility in the use of a good phonographic method like this. In many departments of business, in clerkships, as well as newspaper and court business, this accomplishment of short-hand writing has a high money value. It might be convenient for school teachers to command it among their available resources.

* *Reading Lessons in Steno-Phonography, in accordance with Munson's Complete Phonographer.* By Eliza B. Burns. Published by Burns & Co., New York.

A TREATISE ON ENGLISH PUNCTUATION.*—This is the twentieth edition of a standard work, republished in the revised and improved form in which it was left by its late author. It is replete with accurate and valuable information on this important speciality. It also furnishes much that teachers need to know on kindred subjects. Compound and derivative words are discussed at considerable length; a copious list of abbreviations, with accompanying explanations, is given, and a very complete exposition of "proof-marks." This book is printed in a style which does much credit to its publishers. It is one which would be useful in every teacher's library.

* *A Treatise on English Punctuation, designed for letter writers, authors, printers, correctors of the press, and for schools.* By John Wilson. Published by Woolworth, Ainsworth & Co., New York and Chicago.

CATHCART'S YOUTH'S SPEAKER.*—This is a neatly-compiled selection from the best authors, intended

especially for use at school exhibitions. The pieces are all short and not too difficult to be mastered by young children. This compilation is prepared in unimpeachable taste, and has the great merit of presenting not the well-worn pieces which have done duty in various readers and speakers so long, but articles fresh from the pens of our own gifted authors. There is no doubt that it will have a large circulation in our schools.

* *Cathcart's Youth's Speaker: Selections in prose, poetry, and dialogues, for declamation and recitation.* By George R. Cathcart, A.M. Published by Ivison, Blakeman, Taylor & Co., New York and Chicago.

BARTHOLOMEW'S DRAWING BOOK, NEW SERIES, No. 1.—We believe thoroughly in this book. It is strictly progressive on common-sense principles. The model plates are admirably arranged, and the accompanying explanations so apt and clear that it makes the teacher's work a pleasure. The particular plan of this number cannot be explained with any adequacy within our present limits, but its general plan is starting from the simple drawing of accurate vertical and horizontal parallel lines, to so educate the eye, by gradual steps, to judge of *angles* and *distances* that simple natural objects can readily be sketched by the time the closing pages are reached.

PERIODICALS.

HARPER'S MONTHLY FOR FEBRUARY is filled with an excellent assortment of reading matter, well illustrated. We cannot refrain from calling the attention of teachers to an article of especial value to them. It is the one entitled "English in School," from which a characteristic extract is made elsewhere in this number of the *JOURNAL*. Many pages of the many magazines devoted solely to educational subjects might be passed in review without meeting an article so racy and trenchant, yet withal so eminently sensible, on this leading theme of public instruction. No wide-awake educator, who gets a chance to glance at this, will pass it by unread. Not that its ideas are absolutely new, for they present to the public what has already gained a foothold in the minds of scores of progressive teachers; but the choice and forcible terms in which these views are put, gives it the strongest claims upon our interest. The quaintly and earnestly expressed protest against giving young pupils a knowledge of English grammar by treating them (as the custom goes) with its dry husks, and the advice that language and its grammar should be taught to the young by well-planned exercises in its constant and discriminating use, are both practical and sound. This article does not tend much to the glorification of Gould Brown, or Lindley Murray, as common-school

educators, but it does give common sense a fine chance to speak out in respect to the much-abused process of imparting a knowledge of our mother tongue.

THE CONGREGATIONALIST.—There would be a wearisome gap left in many a household in New England, not to mention more distant parts of our land, were this family paper to cease its circulation. It would cause a sensation among our thrifty towns and villages worthy to be recorded by the side of that produced by Joshua's commanding the sun to halt, and others of like nature. It is truly a noble Christian power in the land. It is a thoroughly pure, evangelical publication, filled with the progressive spirit of the age, and with the genial spirit of a liberal, all-embracing charity. The denomination of which it is the chief representative organ have reason to hold it in high esteem, but it is valued and most highly respected by those also who belong to other religious communities. Teachers will find much in it to instruct and assist them.

AMERICAN NEWSPAPER REPORTER AND ADVERTISERS' GAZETTE.*—The object of this publication is well expressed by its title; it is worthy of all commendation for the exceedingly attractive and artistic style in which it is put forth. Its form is a very convenient one to facilitate its easy passage from hand to hand, and intermingled with the business notices which form the greater part of its bulk, there are various embellishments of a high order of excellence.

**American Newspaper Reporter and Advertisers' Gazette*: Published by G. P. Rowell & Co., New York.

OUR old friend, "The (Massachusetts) Teacher," which sometimes has been "not very well, I thank you," seems better since the new year came in, and is evidently feeling the stirrings of a new life within. Volume XXV. gives evidence that there are still some at "the Hub" who have a belief in the utility of turning over new leaves once in a while. The first two numbers of this new volume come to us with a delightfully new look, such as a new style of cover, new type, and rich-toned paper, have the magic to impart to any periodical. Though externally a little Quakerish in fashion, there is yet a certain ebullient freshness within these numbers, which to our taste is very genial and appetizing. Editor Eaton, whilom a pupil of ours, we are proud to state, drives a racy pen, and his editorials promise to be a feature in this rather seedy magazine, as attractive as they are novel and unique. "The Teacher" has done well to make a "new departure," and we cordially wish it eminent success in all its future.

A celebrated wit was asked if he knew Theodore Hook. "Yes," he replied, "Hook and eye are old acquaintances."

FACTETIAE.

NURSERY RHYMES FOR LITTLE SCIENTISTS.

FOR THE LITTLE BOTANIST.

Little Bo-Peepals
Has lost her sepals,
And where do you think she'll find 'em?
In the involucre,
By hook or by crook or
She'll make up her mind not to mind 'em.

FOR THE CHEMICAL CHILD.

Sing a song of acids,
Base and alkali,
Four-and-twenty gases,
Baked into a pie.
When the pie was opened,
Wonderful to say,
Oxygen and nitrogen,
Both flew away.

FOR THE ASTRONOMIC INFANT.

By-baby buntoid,
Father's found an asteroid,
Mother makes a calculation,
The angle of its inclination.

FOR THE YOUNG GEOLOGIST.

Trilobite,
Graptolite,
Nautilus pie;
Seas were calcareous,
Oceans were dry,
Eocene, miocene,
Pliocene tuff,
Lias and trias,
And that's enough.

(From the "Open Hand," issued at the recent fair of "People's Club," Worcester, Mass.)

Prof. Quimby relates the following rich "experience." Upon a certain time he was explaining to a Vermont farmer some of the wonderful combinations of numbers. The man listened with a great deal of interest and attention, and the professor was led to conclude that he had made a deep impression, when the farmer said, "Yes, that is wonderful, truly, but there is another thing that is more wonderful to me than that, and I can't understand it, yet you must do it every time or else it won't come out right; that is, that you must carry one for every ten!" The professor attempted no further elucidation of the mysteries of mathematics.

"Our major," says an old Mexican volunteer, "had very long feet, and also a horse that threw every one but the major. One evening the major's servant was out on the parade ground with the horse, and as usual got thrown off, when one of the boys spoke up and said: 'I know why the horse don't throw the Major.' 'Why?' was asked by a dozen or more. 'Well, you see, the major's got such long feet that the horse thinks he is in shafts.'"

We have it, on good authority, that a Connecticut schoolmaster, a few weeks since, gravely told his class in United States history, that the tree so famous in the history of Connecticut as the "charter oak," was a *pine* tree, and stood in *New Haven*.

A journalist who is perfectly bald has offered a reward of one thousand dollars for a tale that will make his hair stand on end.

PERSONAL.

Sidney Edwards Morse, a graduate of Yale in 1811, died in New York city Saturday, Dec. 23, in the seventy-eighth year of his age. He was the son of the Rev. Jedediah Morse, D.D., and the brother of Prof. S. F. B. Morse, and was born in Charlestown, Mass., Feb. 7, 1794. He entered the freshman class at Yale in 1805. He studied theology at Andover, and law at Litchfield, Conn., in the famous law school there. His father, the Rev. Dr. Morse, and Mr. Evarts, (father of the Hon. William M. Evarts, late Attorney-General of the United States), and other clergymen and laymen in and near Boston, wishing to establish a religious newspaper, he undertook it, wrote the prospectus, employed a printer, and as sole editor and proprietor issued *The Boston Recorder*, the first "religious newspaper." In 1823, in connection with his younger brother, Richard C. Morse, he established, in New York, the *New York Observer*, now the oldest weekly newspaper in the city, of which he continued to be the senior editor and proprietor until 1858, when he retired to private life. He was the author of a school geography which has had a vast circulation. His genius was also inventive. In 1817, he and his elder brother patented the flexible piston pump. In 1839, he produced the new art of cerography, for printing maps on the common printing press, illustrating his new geography with it, 100,000 copies being sold the first year. He was always interested in scientific and geographical investigations, and at the time of his death was bringing to perfection a new invention for the rapid exploration of the depths of the sea. He had been writing on this subject to a later hour than usual on the night of the 15th, and on rising to go to his chamber he was stricken with paralysis, said to have been the first illness of his life, and lingering until morning, peacefully expired. Mr. Morse had great intellectual resources, a clear, methodical and logical mind, an inquiring spirit and knowledge of affairs, which gave to his writings a character of their own, while his accuracy of statement and his regard for truth inspired unquestioning respect and confidence. By those who knew him intimately he will be best remembered for the many virtues which distinguished his pure character, and his unspotted life.

Hon. B. G. Northrop, the able Secretary of our State Board of Education, has been doing good work for Connecticut, in foreign countries, during the past six months. The attention, personal and official, which he has everywhere received from European educators, must be as gratifying to him as it is complimentary to the state which he represents. He has been most indefatigable in the labor of inspecting systems of public instruction in the different countries of Europe, having visited about twelve hundred schools on the continent alone. In a recent letter from London he says: "Invitations to visit educational men and institutions come far more numerous than I can accept. Mr. Foster, who is at the head of the national system, Prof. Huxley, and several members of Parliament, are proffering every facility."

We trust that Mr. Northrop will soon be at his home post of labor again, and hope that he may be physically able to accomplish for our state all that his reëkindled zeal shall prompt him to undertake. Let there be a proper appreciation of his labors, when again at his institute work among us, and we shall all have occasion to rejoice at the results of the good deed done by the Board of Education, with those liberal friends who contributed so generous an amount of money for this object, in sending their Secretary on this foreign tour.

By the death of Isaac Rich, of Boston, on Saturday, January 13, some of the collegiate institutions of New England lose one of their warmest friends and benefactors. Mr. Rich was born at Wellfleet, on Cape Cod, and by patient attention to business, not less than by his innate ability, self-reliance, and boldness, accumulated an immense fortune. It is estimated that at his death he was worth a million and a half of dollars, and he is believed to have given away half that amount during his life-time, most of it for the benefit of Methodism. When the academy buildings were burned at Wilbraham, Mass., he said to the trustees, "Do what you can and I will furnish the rest," and this he did to the amount of \$60,000. But perhaps his most generous gifts, while living, were to Wesleyan University, at Middletown, Conn. This institution is indebted to Mr. Rich for its beautiful library building—Rich Hall—for the endowment of the Latin chair, and for other bequests amounting in all to over \$100,000. The bulk of his property which remains, it is said, is left to the Methodist Theological Seminary, at Boston, and is to be used in developing that institution into a university, with schools of law, medicine, etc. Mr. Rich had seven children, all of whom, with his wife, are now dead, most of the former dying as they reached maturity. His funeral was largely attended.

Miss Dora Eldredge, of the Central School, Rockville, has received and accepted a call to teach in the Normal School, Whitewater, Wis. Miss Eldredge is a graduate of the Westfield (Mass.) Normal School.

PUBLISHERS' ANNOUNCEMENT.

In assuming the publication of the CONNECTICUT SCHOOL JOURNAL, its readers will naturally inquire what we intend to do for it more than has been done. In the first place, we have changed the size of the JOURNAL, giving it a form, not of a magazine nor yet of a newspaper, but half way between the two. The JOURNAL is not a newspaper merely, nor is it a magazine for contributed articles only; but it is a combination of the two, and its form, we think, is now consistent with its character. Our other reasons for this change may not be as obvious to our readers as to ourselves; the results, however, may be more obvious, the principal one of which is, we are able to give twice the amount of reading matter during the year for the same money, and to give our advertisers the space they demand for their advertisements.

It is our intention to do all that can be done by earnest work to put this JOURNAL on a sound, paying basis, for there is no paper or periodical that can be long continued unless it pays. To do this, we ask the coöperation of our friends throughout the state. Every subscription and every advertisement is a help to the cause. We pledge ourselves that every dollar the JOURNAL shall realize to us for three years, above the cost of publishing, shall be expended upon it. It ought to be, and it shall be, if we can make it, the first educational monthly in this country.

CLUB RATES.

We desire some one in every town in the state to canvass for the JOURNAL. We will pay a commission that will enable any earnest worker to make money in canvassing. We invite correspondence on the subject. For 5 new subscribers we will send an extra copy to the getter-up of the club; for 10 new subscribers, an extra copy and a cash commission of 10 per cent.; for 25, an extra copy and 20 per cent. commission; for 50, an extra copy and 30 per cent.; for 100, 5 extra copies and 33½ per cent.

Having made extensive arrangements with the publishers of the leading papers and periodicals of the country, we are prepared to club the JOURNAL with any papers or periodicals that may be desired, except the local papers of this state. For this JOURNAL and any other periodical, the combined subscription of which amounts to \$5, ten per cent. deduction; to \$10, fifteen per cent.; to \$20 and upwards, twenty per cent.

OLD SUBSCRIBERS.

We hope to retain every name that is now on the subscription list of the JOURNAL. We would like to send extra copies of this number to every one who can use them with other teachers who are not subscribers. Remember that the terms of subscription are invariably in advance. Send all remittances to us at New Haven; all matter for the JOURNAL, to the editors at New Britain.

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TEACHERS' BULLETIN.

WANTED.—A situation as Principal of a Graded School. The applicant has had several years' successful experience as Principal of a school in one of the cities of Connecticut. Can furnish good testimonials. References, B. G. Northrop, Secretary of State Board of Education, or H. C. Davis, New Haven, Conn., to whom communications can be addressed.

SITUATION WANTED AS TEACHER.—A lady who has had experience in teaching in the Chicago public schools, would like a situation as teacher. Refers to Hon. B. G. Northrop, New Haven, and Charles Northend, New Britain.

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It gives me much pleasure to testify of the success attending the study of vocal music in our school under the superior management of Prof. Jepson. Mr. J. is thoroughly qualified for his work, and enters into it with a zeal that is highly commendable. Not being satisfied, however, with what he has already done, he has conceived the idea of revising his "Elementary Music Reader," making a complete and easy gradation of exercises adapted to the wants of the younger as well as the older pupils. Mr. Jepson has already established an enviable reputation in New Haven as a teacher of vocal music, and his revised work, so admirably adapted to school use, will no doubt meet with a large sale.

GEO. R. BURTON, Prin. Wash. School, New Haven.

For several years I have had the opportunity of observing Prof. B. Jepson as a teacher of music in public schools, and more particularly in our own High School. In his department of instruction, I have never known his equal in securing early and valuable results. Whether his success has been mainly due to his own personal efficiency or to the peculiar features of his system as comprised in his "Music Reader," I cannot tell; I only know that the training he gives is thorough and natural, and that his pupils early learn to sing with a rare degree of intelligence and self-reliance.

T. W. T. CURTIS, Principal of High School.

Mr. Jepson's work and methods in teaching music in the New Haven public schools is an undoubted success. I would cordially commend his books to the attention of all who have an interest in this study in schools.

JOHN G. LEWIS, Principal of Webster School.

It gives me great pleasure to recommend Prof. B. Jepson's system of music and vocal culture. At the time of its introduction I doubted the utility of teaching note singing in our large schools, but its perfect success has disarmed prejudice, and I should now regret any change which would deprive us of instruction so valuable. Very truly,

L. L. CAMP, Principal of Dwight School.

It gives me pleasure to recommend Prof. Jepson's "Music Reader" to any wishing a thorough course of instruction in music in their schools. The books are, as their title imports, a series of music readers systematically and progressively arranged for the use of all grades of pupils, from the Primary to the High School. These readers have borne most successfully the best test of school books, namely, a daily use in classes for a term of years; and have been instrumental in convincing the most skeptical that all can be taught to read music with facility by the time that they are prepared for the High School.

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Prof. Jepson's Music Reader is, in my opinion, the most systematic and best adapted to school use, of any work of its kind now before the public. I have entertained a high opinion respecting its merits, since first seeing it in manuscript—an opinion which its use in the school-room for several years has greatly strengthened. Prof. Jepson is deserving of the praise which his highly meritorious work receives, and we cheerfully add our testimony to the above.

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